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**Monitoring a trans-border labour market
in view of liberalization : the case of
Ticino**

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Monitoring a trans-border labour market in view of liberalization – the case of Ticino

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Abstract

Switzerland has signed a Treaty with the EU on free mobility. From June 2004, this will replace current regulations based on quotas of foreign work force, and will facilitate the access of Italian enterprises to the Ticino market. Evidence found when monitoring the Ticino economy for the period 1980-2002 shows that the opening of the market had largely been anticipated; indeed the regional economies, north and south of the border, had been converging for some two decades at least. The liberalization of the labour market will therefore accelerate an integration process already underway. This paper presents data substantiating our claim based on the characteristics of the trans-border labour market and indicators on both the supply and the demand sides of this specific regional market.

Keywords: regional labour markets, immigrant workers, labour market indicators, liberalization.

JEL Classification: R12, J61.

1 Introduction

The bilateral treaty on free mobility between the European Union and Switzerland came into force on 1 June 2004. It put an end to industry specific quotas for access of immigrants to the Swiss labour market as well as to work permits being granted to foreigners¹ only in the absence of an equivalent Swiss supply. The only categories of workers never to have been subject to quotas were trans-border commuters, whose number is controlled by the delimitation of the border area, and resident foreigners, who could acquire permanent status after five years of uninterrupted presence² in Switzerland.

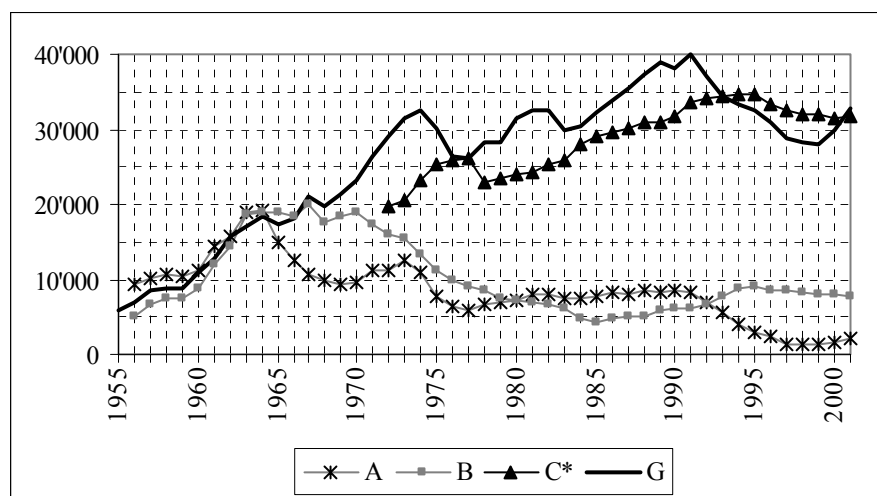
Regulation has played an important role, especially in border regions, where wage differentials have attracted cross border manpower to make up for the shortage of native manpower in specific economic sectors. This has developed low-wage and labour-intensive activities such as clothing and textiles, mining and quarrying, metalworking, construction, retailing as well as the hotel and restaurant industry. Ticino is no exception. In fact, the economy of this small Swiss region (3.2% of Swiss GDP), which borders on to Northern Italy and in 2002 employed 178,000 workers, has shown a higher concentration of foreigners in its development path.

The share of non-native manpower, 42% of total payroll, corresponds to twice the Swiss average. The evolution of the foreign-worker category shows that temporary permits have progressively been replaced by resident and cross-borders workers (see Fig. 1).

¹ See Appendix A for a definition of work permits.

² Annual and seasonal permits will be converted into resident permits after five years' unbroken presence in Switzerland if the immigrant comes from European countries, after ten years otherwise.

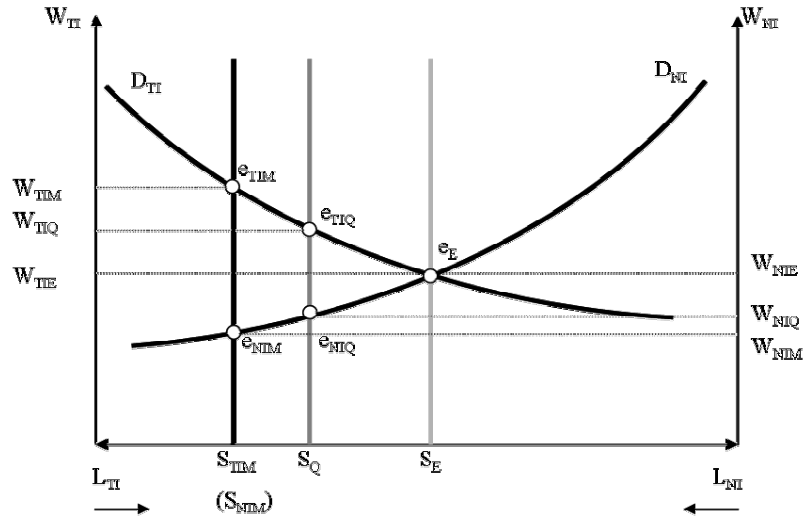
Figure 1: Evolution of permits granted to foreigners to work in Ticino 1955 – 2001



Source: USTAT. Evolution of permits granted to foreigners to work in Ticino from 1955 to 2001, where category A are seasonal permits, category B are annual permits, category C are permanent permit (data available since 1972), category G are cross-border permits (for details see appendix A).

The free mobility Treaty removes quotas as well as the privilege of priority granted to native workers. Speculation abounds on the impact that this may have on wages and on other labour market indicators (wage dumping, deterioration of labour conditions, effects of substituting native workers with foreign workers, and so on.). In theory, we can expect a convergence effect. For a brief review of Ticino's situation, we propose a reading of Straubhaar 1999, who uses a Mussa-Box to analyse the opening of the labour market between two countries characterized by different wage levels in the absence of unemployment. In Fig. 2 we apply this theoretical framework to the case of Ticino.

Figure 2: Mussa-Box applied to Ticino's case.



Source: Straubhaar 1999.

The Mussa-Box records labour demand (D) and labour supply (S) as functions of wages (W) and labour force (L), where subscripts TI and NI stand for two hypothetical economies, as for example Ticino and Northern Italy. Total labour force is assumed as fixed (invariable) (reported on the horizontal axis) and labour supply is supposed to be inelastic. The two regions differ in the level of labour force resources. The corresponding TI workers are from L_{TI} to S_{TIM} , while NI workers are from L_{NI} to S_{NIM} .

Three cases have been analysed. The first case reports a situation of closed economies: when migration between the two markets is not possible, then each region employs an entirely local labour force (respectively S_{TIM} and S_{NIM}). The equilibrium point between e_{TIM} and e_{NIM} shows higher wage levels in Ticino than in Northern Italy (i.e. $W_{TIM} > W_{NIM}$). The second case treats a partial opening of the market imposing a quota of $(S_q - S_{TIM})$ foreigners. As a consequence of previous results, the difference in wage levels attracts NI workers to TI and new equilibrium points are found (e_{TIQ} and e_{NIQ}). Employment rises in Ticino to S_{TIQ} driving wages down to W_{TIQ} while by contrast Northern Italy's employment drops to S_{NIQ} pushing wages up to W_{NIQ} . The effect of net migration ($S_{NIM} - S_{NIQ}$) has reduced persistent wage differentials. In the third case, mobility of workers is entirely free in an open market. If migration from Northern Italy to Ticino increases, the wage differential shrinks. Total convergence in wages is defined in equilibrium e_E , which thus removes any incentives for anybody to move.

Clearly, the economy of Canton Ticino did not wait for the free mobility Treaty to launch into this convergence trend. Ticino's economy had largely anticipated the total unlocking of the labour market. In fact, during the period 1980-2002, the regional economies, north and south of the border, seemed to be converging steadily; thus the free mobility Treaty will probably only step up an already existing trend.

In the following sections we introduce the theoretical model supporting our analyses, and define its spatial and temporal delimitations. Subsequently, we introduce and discuss some leading indicators, and finally we draw some conclusions on the trends observed before the liberalization of the market. We have used data gathered from different sources. In order to compare data describing regions from different countries, such as Switzerland and Italy, we utilized the data set supplied by the International Benchmark Club (IBC) BAK Basel Economics 2002. Statistics on foreign workers were provided by the Swiss Central Immigration authority (RCS³), and the data on wages supplied courtesy of the Federal Statistics on the Structure of Salaries (LSE⁴) 2000.

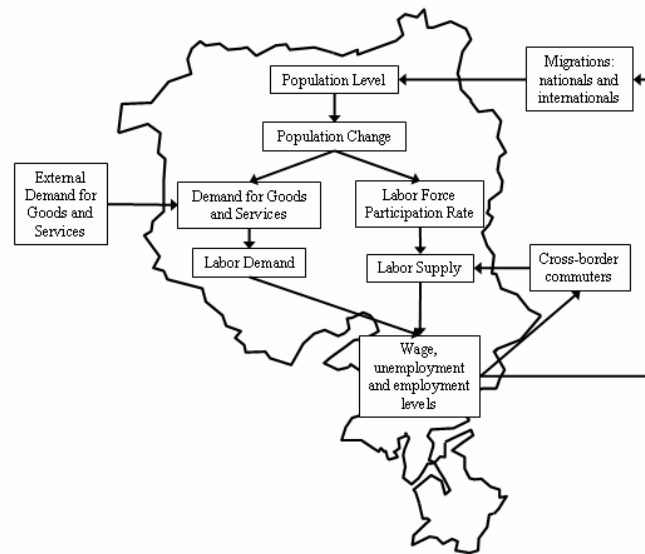
2 Integrated Regional Labour Market Model

An analysis of the regional labour market cannot be developed simply by considering demand and supply. It has to include economic and demographic factors (Isserman et al. 1986). As shown in Fig. 3, demographic variations together with labour force participation rates determine labour supply. Population change also affects demand for goods and services, which has an impact on the local demand for labour. Interactions between labour supply and demand determine wage, unemployment as well as employment levels. The last three indicators play an important role in migration effects, which in turn alters population levels. In this sense, among others, trans-border commuters have a direct impact on labour supply.

³ Swiss Central Immigration authority (Registro Centrale degli Stranieri – RCS)

⁴ Federal Statistics on the Structure of Salaries (Schweizerische Lohnstrukturerhebung – LSE)

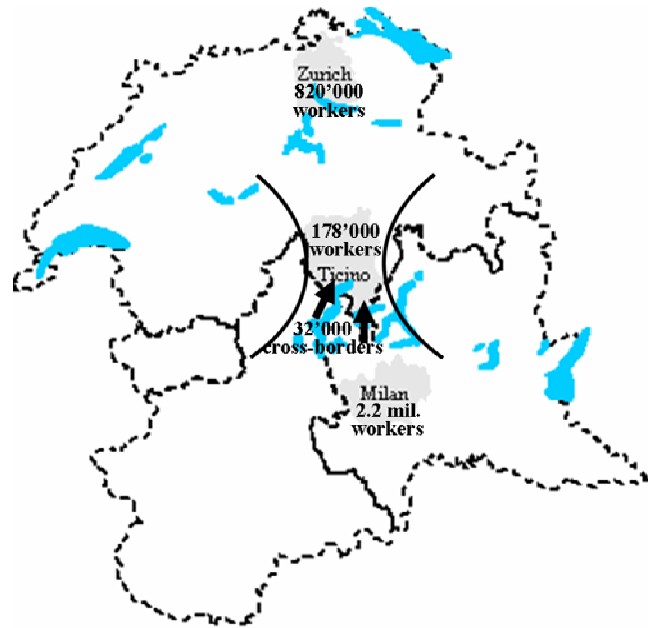
Figure 3: Regional Labour Market Model



Source: Fisher & Nijkamp 1991.

Therefore, the model makes no sense unless we consider the spatial integration of the labour market. Ticino's evolution has been influenced by Switzerland's economic trends but also by the Swiss government's immigration policy. Moreover, the particular geographical location together with the restrictive regulation imposed on foreign labour force has been an incentive to build solid relations with the Italian provinces of the Lombardy and Piedmont regions. The model we adopted is thus an integrated labour market model (see Fig. 4). On the demand side we have Ticino's economy, while on the supply side we have Ticino's workforce added to that derived from the Italian border provinces.

Figure 4: Integrated labour market

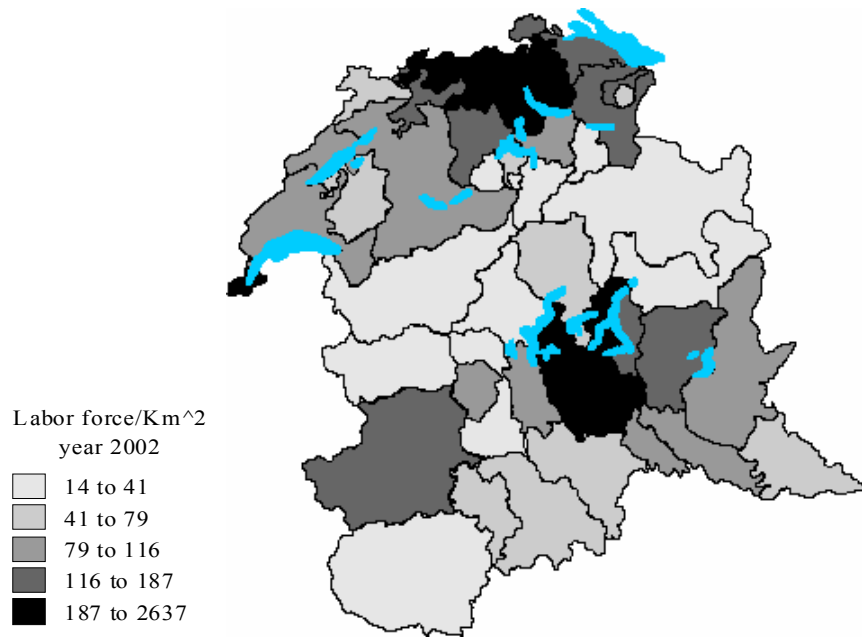


Source: IRE 2004.

3 The spatial delimitation of the model: some useful data

Ticino's labour market is located in a low-density labour-force region (the Alpine area) between two high-intensity poles of work force (see Fig. 5), namely between the two great poles of Switzerland and Lombardy, Zurich and Milan. In 2002, the employment level in Ticino stood at approximately 174,000 workers, which corresponds to 4.3% of the entire Swiss employment.

Figure 5: Labour force density in year 2002



Source: IBC-BAK Basel Economics 2002.

The employment structure of Ticino is similar to those of Switzerland and the Northern Italy regions (see details in Appendix B). The tertiary sector represents 72% of employment in Ticino (70% in Switzerland). Higher percentages are observed only in Canton Geneva, Zurich, Basel City and Vaud (between 75% and 84%). In the same period, in Lombardy and Piedmont employment was 3.8 million and 1.7 million workers respectively. Compared to Ticino, these workers were less concentrated in the tertiary sector, but still represented a share of 64%-65% of the total manpower.

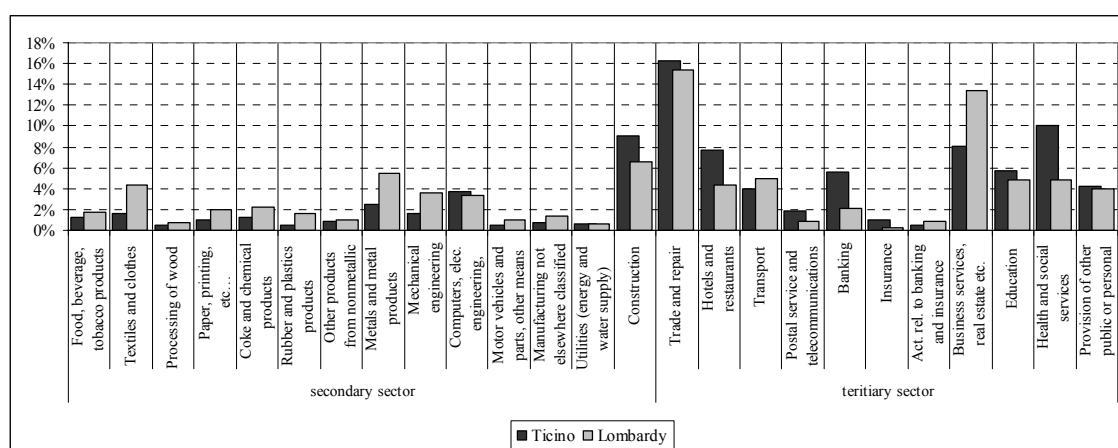
Higher rates of employment in manufacturing activities in Northern Italy are especially related to mechatronics⁵ and textiles activities, which are relevant above all in the neighbouring provinces of Como, Varese, and Novara. Construction activities are more present in Ticino than in Lombardy and Piedmont.

In the tertiary sector, Ticino's employment is significantly more concentrated than in Northern Italy in hotel and restaurant activities, health and social services as well as banking activities. Bear in mind that banking activities represent 20% of Ticino's total real gross value added. On this basis, the Canton qualifies as the third

⁵ Mechatronics activities aggregate Mechanical engineering and Computers, electrical engineering, and precision equipment activities.

Swiss financial market-place after Geneva and Zurich. On the other hand, we observe that business services and real estate absorb relatively more workers in Northern Italy than in Ticino.

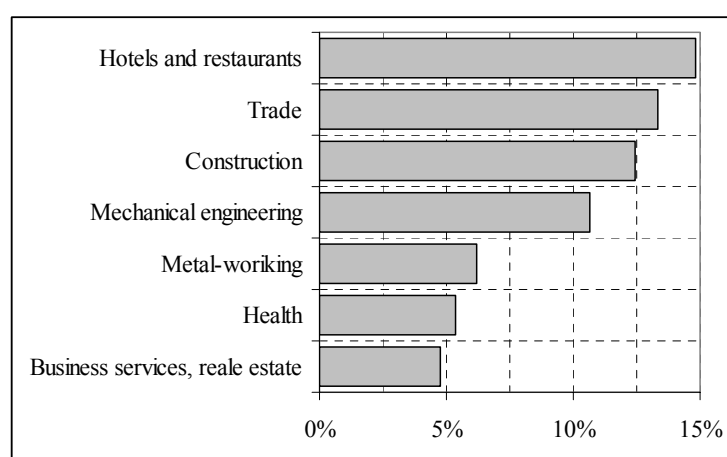
**Figure 6: Ticino and Lombardy: Employment distribution
as a percentage of the aggregate economy in 2002**



Source IBC-BAK-Basel Economics 2002, processed by IRE.

In Ticino, the foreign labour force represents 42% of total employment and consists mainly of resident and cross-borders workers, located mainly in sectors characterized by low value-added activities (see Figure 7).

Figure 7: Foreign workers distribution in 2002

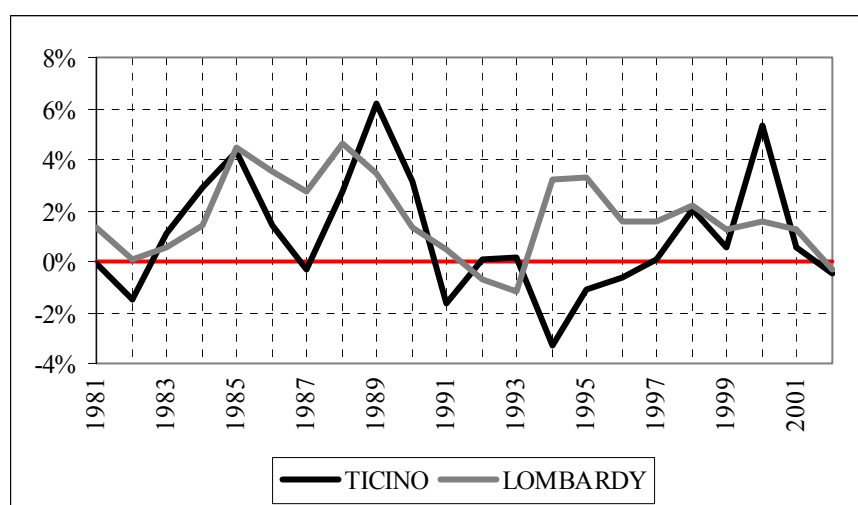


Source: RCS 2002.

If we look at the classes of labour permits, cross-borders are more concentrated in manufacturing and construction activities rather than in services. Seasonal permits, which represent 2.7% of foreign manpower, are located mainly in the hotel and restaurant branch.

The timeframe of our analysis considers the economic evolution of the last two decades in order to overcome the business cycle effect.

Figure 8: Real GDP growth rate in Ticino and Lombardy, 1981-2002



Source: IBC BAK Basel Economics 2002.

4 Leading indicators

Following the model described in Fig. 3, this section focuses exclusively on the results of equilibrium and disequilibrium indicators. For an overview of the global results of the analysis see Alberton Gonzalez 2003.

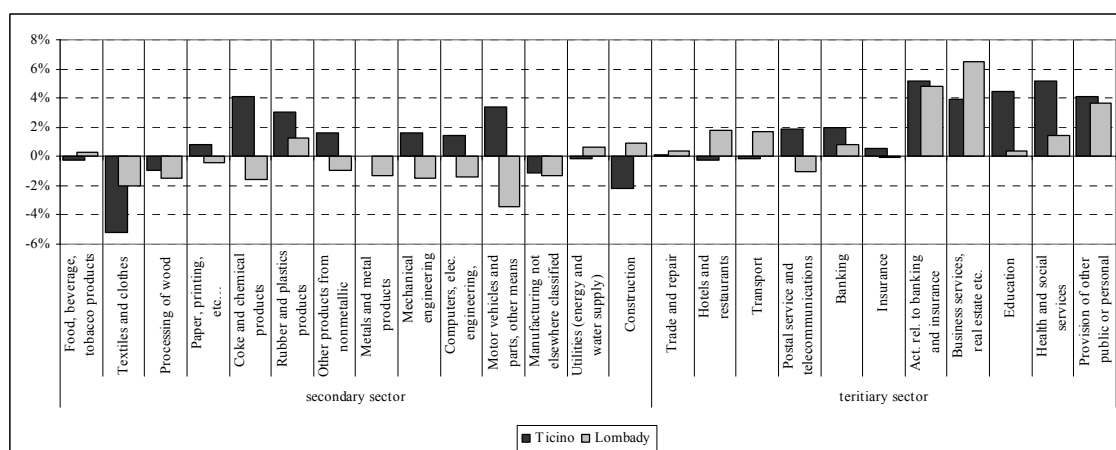
Employment and Growth

Employment expanded, indeed boomed, in the 1980s while it markedly dropped in the recessionary decade, the 1990s. Employment shifted gradually to the tertiary sector in both Swiss and Italian regions. The difference lies in the composition by branches of industry. Ticino followed the Swiss evolution, and the tertiary sector developed especially in high-demand activities like Health and social services, Education, activities related to Banking and Insurance, as well as Business and Real estate. This generated a growing demand for foreign workers (cross-border workers above all) in

branches until then less present on the cross-border labour market. What is worth noticing is that Banking and Insurance have also been responsible for greater number of jobs in the tertiary sector in the Northern Italian regions.

As far as manufacturing is concerned, historically employment in Ticino grew on the strength of activities like metalwork and mechatronics, mostly on account of the high proportion of cross-border workers. It is important to say that this evolution has been possible thanks to the strong presence of the same manufacturing activities in the neighbouring Italian provinces. Nevertheless, the trend has shifted in the last few years. Its effects on Ticino's economic structure could be significant. In the neighbouring Italian provinces, there has been a gradual decline of employment in these branches.

Figure 9: Yearly average employment growth rate (1981-2002)

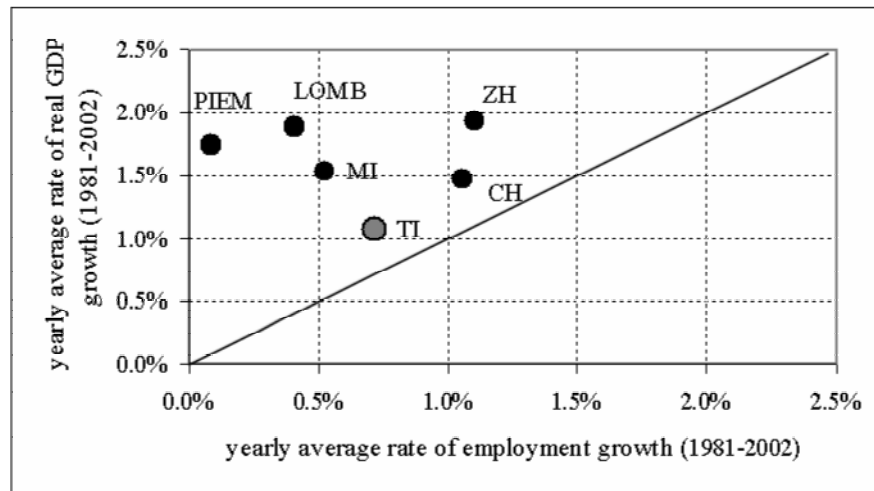


Source: BAK Basel Economics 2002.

Thus, the general picture shows us some interesting similarities in terms of the economic structure of the cross border-region and a certain convergence process over the years.

Finally, let us say a word about the *quality* of the economic structure in time. Similar economic structures perform differently in the cross border regions. In the last decade, the Italian provinces have performed much better in terms of GDP growth / loss of employment ratio.

Figure 10: Yearly average employment and growth rate (1981-2002)



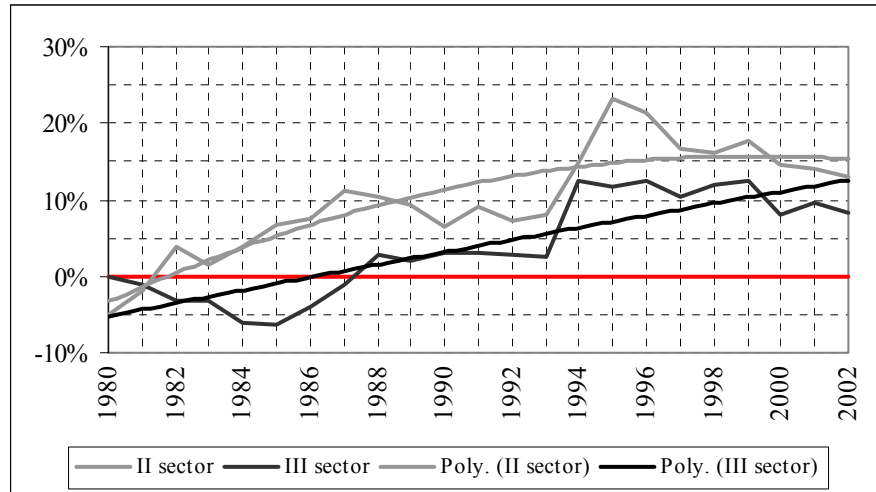
Source: IBC-BAK Basel Economics 2002.

The reason behind this differential is the greater productivity of the Italian provinces. In order to better understand this dynamics and its convergence effects, let us examine, in turn, the effectiveness and the efficiency of the labour force.

Productivity and Labour Costs

During the last two decades Ticino has paid the price of a productivity gap. While the differential compared with the rest of Switzerland has been stable and below average, this differential has widened compared with Lombardy and Piedmont. The productivity advantage observed until the early 1980s gradually dissolved during the 1990s. In 1985, the gap between Ticino's productivity and the Italian provinces' productivity was still 4% in favour of Ticino. By 2002 this gap had dropped to virtually zero. The level of productivity is now similar in the cross border region. The constant increase in productivity of the Italian border provinces has strengthened their position by comparison with Ticino's; the tendencies suggest that this dynamics will keep on growing also in the years to come.

Figure 11: Difference (in percentage) between the hourly productivity of Lombardy and Ticino (1980-2002)

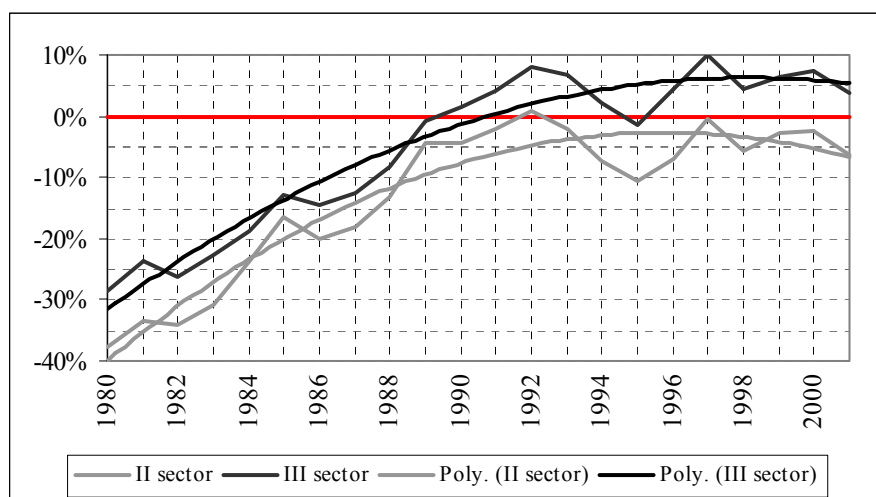


Source: IBC-BAK Basel Economics 2002. Real hourly productivity in US\$ PPP1997, 1990 prices. Fig.11 reports the evolution of the difference in hourly productivity in percentage points between Ticino and Lombardy: $((Lom-Ti)/Ti)$. Piedmont's evolution was left out being similar to that of Lombardy.

While productivity measures the ability of employment, labour cost analyzes the efficiency of the employment and the competitive advantages between Ticino and the Italian border provinces. During the last two decades, the gap of the hourly labour cost between Ticino and Switzerland has constantly been around 20% for Ticino. In contrast, the labour cost differential between the Italian border provinces and Ticino narrowed progressively, especially in the 1980s (Fig.12). In fact, in 1980 the cost gap was favourable to Lombardy and Piedmont, but during the economic growth of the 1980s the differential fell sharply, generating a convergence effect. Differences have been observed also affecting sectors. In the secondary sector (where historically foreigners have been mostly deployed) the gap of labour cost has been drastically reduced, but remains slightly negative. Slightly different is the evolution in the tertiary sector, where the steady shrinking of the labour cost differential nudged Ticino into a competitive advantage position. But this tendency cannot be generalized to all service activities. The labour cost differential in the banking sector has made the loss of competition worse for Ticino during the 1990s after the sharp convergence observed during the 1980s. A

similar trend was observed for business services and real estate, where labour cost is actually cheaper in Lombardy and Piedmont than in Ticino.

Figure 12: Hourly labour cost difference (in percentage)
between Lombardy and Ticino



Source: IBC-BAK Basel Economics 2002. Hourly labour cost in USD, current prices and exchange rates. Fig.11 reports the evolution of the difference in hourly labour cost in percentage points between Ticino and Lombardy: $((Lom-Ti)/Ti)$. Piedmont's evolution has been left out because it overlaps with that of Lombardy.

Speaking of productivity and labour costs quite naturally brings us to tackle the problem of wages, which depend directly on productivity and are a major component of labour costs.

Wages

The first important thing to notice is that in Ticino wage levels are on average 14% lower than in Switzerland as a whole. This difference is even higher (up to 22%) if compared to Zurich. Scarcity of data prevents us from carrying out a similar comparison between wage levels in Ticino and Northern Italian regions. However, it is possible to observe wage differences between foreign labour force and Swiss workers in Ticino, distinguishing between classes of work permits.

A recent study (Maggi and Gonzalez 2002) has demonstrated that segmenting the labour market according to skill levels challenges the intuition according to which wage discrimination against foreign workers prevails regardless of the class of permit (Tab. 1).

Table 1: Wage differential between Swiss and foreign workers in Ticino (2000)

	Skill Segment		
	Low	Medium	High
Seasonal	-8.8%	-9.3%	-7.8%*
Annual	-6.2%	+4.0%	+28.9%
Resident	-4.0%	-4.4%	+3.1%**
Cross border	-11.6%	-9.1%	-8.3%*

Source: Gonzalez and Maggi 2002. Only a part of the study is reported here.

*not significant at the 95% level, ** not significant at the 99% level

Workers with cross-border permits earn lower wages than natives in low and middle skills segments. In the case of annual permits we find a positive wage differential for foreigners in the medium- and high-skill segments. The drastic positive wage differential (about 28.9%) in the high-skill segment indicates that few top positions are selectively being occupied by mobile immigrant workforce⁶. This type of workforce is limited by quotas (a limitation that does not apply to trans-border commuters).

Further figures on immigrant workers show that foreign residents take home more or less the same salary as Swiss residents, whereas trans-border commuters are discriminated against proportionately to their skill levels. In their case, Swiss regulations clearly work in favour of the resident workforce, exploiting a very elastic labour supply from neighbouring Northern Italian provinces with a lower cost of living.

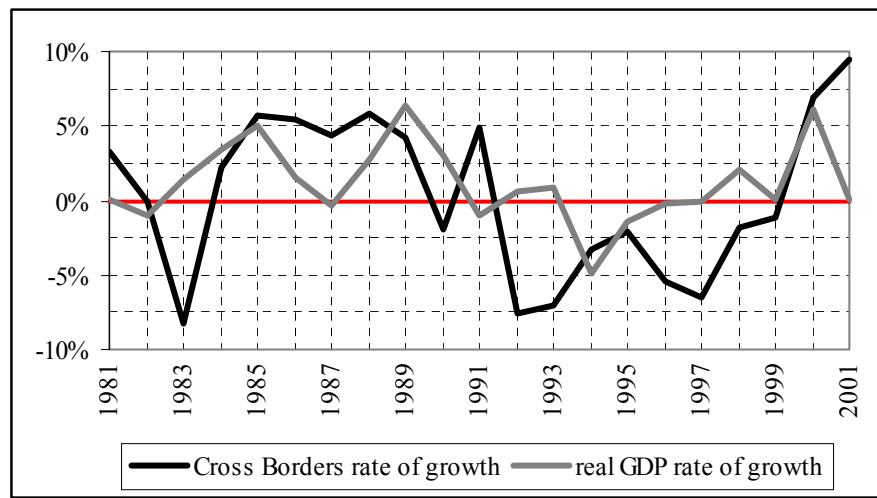
For the rest, given the high number of trans-border commuters in low-skill labour market segments and their presence almost exclusively in selected activities, liberalisation would probably have no relevant impact on the salary of Swiss residents. Finally, note that these speculations do not take into account any possible reductions in demand for labour in some industries (e.g. related to building) as a result of direct competition from Italian firms.

⁶ Note that discrimination against Swiss labour force implies a shortage also on the labour market at the immigrants' origin. In this case the contingent regulation plays a bad trick on residents filling the jobs first, since thereafter the firms have to pay premiums to attract internationally mobile labour force to the local market.

Unemployment

Finally we consider the unemployment rate. The rate of unemployment in Ticino is one of the highest in Switzerland and is not so different any more from the unemployment rate of the Northern Italian regions. Its dynamics followed the Swiss trend and the gap narrowed considerably during the latter half of the 1990s.

Figure 13: Cross borders and real GDP rate of growth in Ticino, 1981-2001



Source: IBC-BAK Basel Economics 2002, and RCS.

Historically, during recession periods Switzerland offset employment variations by exporting unemployment through reduction of temporary foreign workers as well as through cutting back on cross border permits, which therefore fluctuated following the economic cycle. The progressive substitution of temporary permits to work (annual and seasonal) with more stable permits (e.g. those for residents) has reduced labour market flexibility, especially in Ticino (see Fig. 13). As a result, Swiss as well as Ticino's unemployment rates rose more than expected during the recession of the 1990s.

5 Conclusions

The empirical evidence presented in this paper has enabled us to argue the following thesis: far from causing any particular shock, any further and total liberalization of the Swiss labour market will merely accelerate a process of integration that is already at least ten years old, particularly in the border regions. The special case

of Ticino and the Swiss-Italian cross border labour market is exemplary from this point of view. Several indicators analysed over a relatively long period of time (20 years) show that a process of convergence (though probably not linear yet) is underway between the economy of Canton Ticino and the economies of the Italian border provinces and regions.

Not all politicians, economic associations and entrepreneurs are convinced that there will be no phenomenon of mass migrations, wage and/or social dumping, distortion of the competition mechanisms or even a recrudescence of the shadow economy.

We are still unable to predict the size and extent of this potential phenomenon and to measure its effects by modelling the available data. Studies have indeed been carried out in the United States on phenomena such as the impact of immigration on jobs and wages due to the opening of the frontiers (Borjas, 1994 and 2001, LaLonde and Topel, 1991). Also, surveys have been conducted in Switzerland on the phenomenon of the differential wage between foreign and native workers (Flückiger, 1998 and 2000), as well as on the impacts of immigration on the Swiss economy (Sheldon, 2001). Yet, what all of these underline is the inadequacy of the methodological apparatus, still in need of significant improvements.

More difficulties emerge when the territorial level of the analyses narrows down to single regions, as is the case of Ticino and the Swiss-Italian border region. In the absence of models and sufficiently solid tools for the analysis of small realities, hypotheses can be put forward on the basis of empirical knowledge and by tackling problems through the continuous observation of reality, modified by the progressive implementation of the bilateral Treaty on free mobility.

This is what our Institute has been called on to do in the framework of the Treaty's supporting measures by setting up an observatory of the cross border labour market. The observatory has been assigned the monitoring and analysis of the functioning of the labour market in all of its aspects (supply side, demand side, salaries and labour conditions, etc.), as well as the evaluation of the impacts of the Treaty. In particular, it is expected to answer the following questions. How does the Treaty influence the paths of demand, supply, salaries or labour conditions? To what extent does the Treaty influence the interactions between Ticino's labour market and the Italian border provinces' labour market? These are only a few of the open questions we will try to answer through our monitoring and analytical activities.

Appendix A:

In Switzerland immigration has been controlled by a system of authorization that provides 4 types of work permits:

- **Permanent permit or resident permit (C category):** it gives the same economic entitlement to settled workers as to Swiss citizens in terms of mobility between jobs and regions. This permit is issued after five years' unbroken presence in Switzerland. Its duration is unlimited and it is not subject to quotas.
- **Annual permit (B category):** it is issued to new arrivals for specific jobs for a maximum period of one year. It is subject to quotas and its renewal is at the authorities' discretion.
- **Seasonal permit (A category):** issued for a maximum of nine months for specific jobs in seasonal activities. It is subject to quotas and its renewal is at the authorities' discretion.
- **Cross-border permit or frontier permit (G category):** issued only for workers who reside in the border area. It gives no entitlement to settle in Switzerland and it is not subject to quotas.

Appendix B

Figure B1: Employment as a share of the aggregate economy 1980 - 2002

NOGA CODE	ECONOMIC ACTIVITY	1980				2000			
		TI	CH	LOMB	PIEM	TI	CH	LOMB	PIEM
AGW	AGGREGATE ECONOMY	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
A0105	PRIMARY SECTOR	3.8%	7.0%	5.4%	9.0%	2.0%	4.1%	2.5%	3.7%
A1045	SECONDARY SECTOR	39.4%	37.9%	49.3%	47.8%	26.0%	25.1%	35.7%	33.8%
A1537	Manufacturing	20.5%	24.7%	42.2%	40.6%	16.0%	17.1%	28.4%	26.9%
A1516	Food, beverage, tobacco products	1.5%	2.0%	1.8%	2.1%	1.2%	1.6%	1.8%	2.0%
A1719	Textiles, garments, leather goods and shoes	6.4%	2.5%	7.5%	6.7%	1.6%	0.6%	4.3%	3.5%
A20	Processing of wood	0.8%	1.3%	1.2%	1.4%	0.5%	0.9%	0.8%	0.8%
A2122	Paper- and boardmaking, printing and publishing	1.0%	2.2%	2.4%	2.4%	1.0%	1.7%	2.0%	1.5%
A2324	Coke, refined petroleum and chemical products	0.6%	2.1%	3.7%	1.1%	1.2%	1.7%	2.3%	0.9%
A25	Rubber and plastics products	0.3%	0.5%	1.4%	1.9%	0.5%	0.6%	1.6%	1.5%
A26	Other products from nonmetallic minerals	0.7%	0.7%	1.4%	1.1%	0.9%	0.5%	1.0%	0.9%
A2728	Metals and metal products	2.9%	3.0%	8.1%	6.9%	2.5%	2.5%	5.4%	4.8%
A29	Mechanical engineering	1.4%	4.4%	5.4%	4.0%	1.6%	2.6%	3.5%	4.0%
A3033	Computers, elec. engineering, precision equipment	3.3%	4.8%	5.1%	3.7%	3.7%	3.3%	3.4%	2.7%
A3435	Motor vehicles and parts, other means of transport	0.3%	0.3%	2.3%	7.9%	0.5%	0.5%	0.9%	3.3%
A3637	Manufacturing not elsewhere classified	1.3%	1.0%	1.9%	1.4%	0.8%	0.7%	1.3%	1.0%
A4041	Utilities (energy and water supply)	0.7%	0.6%	0.9%	0.9%	0.6%	0.5%	0.6%	0.7%
A45	Construction	17.7%	12.4%	5.9%	6.2%	9.1%	7.3%	6.5%	6.1%
A5095	TERTIARY SECTOR	56.8%	55.1%	45.2%	43.2%	72.0%	70.8%	61.8%	62.4%
A5052	Trade and repair	18.6%	19.9%	15.4%	13.9%	16.3%	16.4%	15.3%	15.6%
A55	Hotels and restaurants	9.8%	6.9%	3.2%	2.8%	7.7%	5.8%	4.3%	4.2%
A6063	Transport	4.8%	3.9%	3.8%	3.8%	3.9%	4.0%	5.0%	5.2%
A64	Postal service and telecommunications	1.5%	1.6%	1.2%	1.4%	1.9%	2.2%	0.8%	1.0%
A65	Banking	4.4%	2.6%	1.9%	1.5%	5.6%	3.3%	2.1%	1.6%
A66	Insurance	1.0%	1.4%	0.3%	0.2%	1.0%	1.7%	0.3%	0.2%
A67	Activities related to banking and insurance	0.2%	0.1%	0.4%	0.4%	0.5%	0.3%	0.9%	0.9%
A7074	Business services, real estate etc.	4.2%	4.8%	3.8%	3.2%	8.1%	10.5%	13.5%	12.0%
A80	Education	2.6%	3.2%	4.8%	4.5%	5.8%	6.5%	4.8%	5.6%
A85	Health and social services	3.9%	5.2%	3.9%	4.0%	10.0%	10.5%	4.9%	5.2%
A9093	Provision of other public or personal services	2.1%	2.4%	2.0%	2.4%	4.3%	4.3%	4.0%	4.2%

Source: IBC-BAK Basel Economics 2002.

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