European Commission

Volume 12 | Issue 4 | April 2015 ISSN:1725-8375

ECFIN Country Focus

ECONOMIC ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

HIGHLIGHTS IN THIS ISSUE:

- *The flexibility of Poland's labour market institutions contributed to the containment of labour costs*
- *Some specific aspects of the flexibility, however, gave rise to a pronounced labour market duality*
- *Polish exports remain concentrated in low-to-medium-tech industries and largely rely on unskilled labour*
- *The widespread use of temporary employment comes at the possible cost of lower human capital accumulation, less innovation and, ultimately, lower growth*

Securing Poland's economic success II: labour market and product specialisation – is there a link?

*By Piotr Bogumil**

Summary

The flexibility of the Polish labour market has served the economy well and has hitherto supported its catching-up process with the rest of the EU. It was instrumental in achieving and safeguarding cost competitiveness, which in turn allowed exports to gain market share and, ultimately, underpinned sustained economic growth. As the country has moved up the income ladder, however, the current institutional design of the labour market may have lost some of its appeal.

In a previous Country Focus on Poland (Country Focus Volume 11, Issue 9, 2014) we looked at Poland's growth performance and growth potential from a macro perspective. This time, we zoom in on the labour market. We argue that, while the current set up helped contain labour costs, it also created room for an unprecedented use of temporary contracts, including so-called 'civil law contracts' that offer particularly low wages and social protection. Almost 27% of employees in Poland are now on temporary contracts, a larger proportion than in any other EU country.

Since labour market institutions not only affect the levels of employment and unemployment, but also shape a country's economic performance more generally, the widespread use of temporary employment can be a mixed blessing. While contributing to cost competitiveness and supporting higher employment levels, it can slow down physical and human capital accumulation, and weigh on innovation. We argue that, in the long term, these 'side effects' can hamper a re-orientation of the economy towards high-technology products and services and, ultimately, weigh on its future growth potential. Our assessment is corroborated by empirical findings and established economic models.

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Comments by Laura Bardone, Patrick D'Souza, Martin Larch, Karl Pichelmann and Alessandro Turrini are gratefully acknowledged. The author is grateful to Tomasz Zdrodowski for providing excellent statistical assistance.

Economic and Financial Affairs

KC-XA-15-004-EN-N
ISBN 978-92-79-44870-6
doi:10.2765/157668

Labour market institutions in Poland

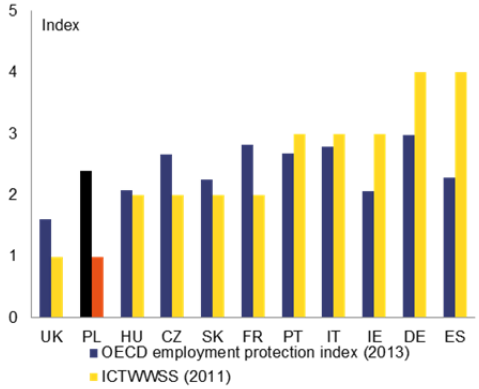
Labour market institutions in Poland allow for wage and employment flexibility

Labour market institutions put their mark on a country's overall economic performance. They influence the interplay between relative wages, relative prices and output and thereby shape the allocation of resources, the level of income and economic growth. This Country Focus takes a closer look at certain characteristics of the Polish labour market and how they may impact or influence the country's product specialisation and, ultimately, its medium- and long-run growth prospects.

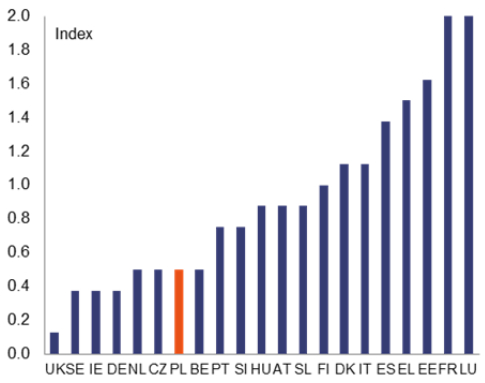
Employment protection legislation for permanent workers is around the OECD average, whereas regulation of fixed-term contracts is light

Poland's labour market institutions are fairly flexible compared to other EU countries. First and foremost, wage bargaining is decentralised, predominantly conducted at firm level and uncoordinated (Graph 1). This has helped ensure alignment of wage and productivity dynamics. There are only a few industries[1] where industry-level collective wage agreements apply. These industries covered 390 000 employees, i.e. only around 2.9% of the total labour force in 2011.[2] In addition, employment protection legislation (EPL) in Poland is not overly burdensome, albeit heterogeneous across type of contracts. Stricter protection of permanent contracts, both individual and collective, contrasts with light regulation of fixed-term contracts (Graph 1 and 2).[3] This design feature may have contributed to the very high share of temporary contracts in Poland. In fact, Poland has the highest proportion of workers employed on fixed-term contract in the EU, reaching almost 27% of the employees in 2013 (Graph 3). Temporary employment plays an important role as an entry portal into the labour market and as such is more widespread among young workers (reaching 66% of workers aged 15-24 years).

Graph 1: OECD EPL for permanent contracts (2013) and index of coordination of collective wage bargaining (ICTWWS, 2011)



Graph 2: Regulation of fixed-term contracts



Source: OECD Employment Outlook 2013; Amsterdam Institute for Advanced Labour Studies, ICTWSS Visser database (2011)
Notes: EPL stands for Employment Protection Legislation. The index of coordination of wage bargaining describes the level and degree of coordination of wage setting as reported in the Visser ICTWSS database. More at: http://www.uva-aias.net/208. The EPL scale runs from 0 (least stringent) to 6 (most restrictive) and the ICTWSS scale from 1 (most fargmented and least coordinated wage setting) to 5 (most coordinated and centralised wage setting process)

Apart from fixed-term contracts, so-called Civil Law contracts, initially designed to be used in specific circumstances mainly by free professions (e.g. to deliver specific products/work), are increasingly used in Poland as an alternative to temporary employment contracts.[4] These contracts are not regulated by the country's Labour Code and some of them provide entitlement to a limited set of benefit and pension rights (mandate contract) while others provide no such rights (contract for specific work), and workers under mandate contracts can decide about payment of health contributions.[5] While there is no unified and standardised statistical source for Civil Law contracts, available information suggests an important incidence of this type of arrangement. According to estimates produced by the Ministry of Finance, around 900 000 employees (or 5.6% of all employees in 2011) are hired with a temporary contract under Civil Law. The National Labour Inspectorate estimates that, among the enterprises for which it carries out inspections, 25.3% of all employees worked on the basis of Civil Law contracts[6] in 2011. According to the National Bank of Poland, around 4% of all employees work on the basis of Civil Law contracts (2014).[7]

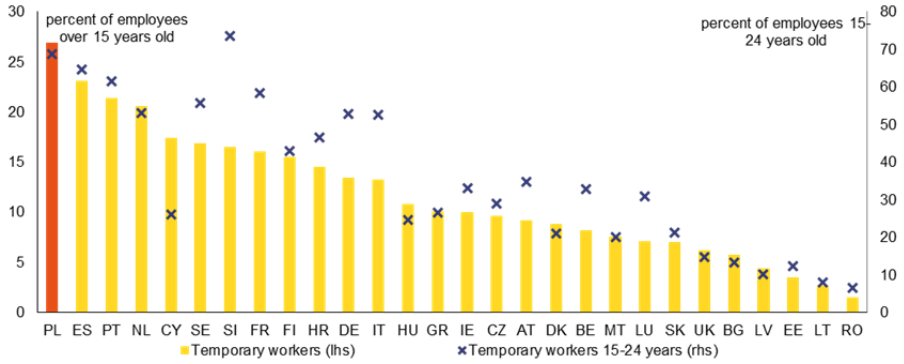
Looking back in time, the development of fixed-term employment was driven by

The confluence of light EPL, a high tax wedge for low skilled workers and specific developments in the early 2000's resulted in a very high share of temporary employment

institutional changes in the labour market in response to economic conditions over the last decade. Fixed-term contracts were introduced at the beginning of the 2000s to combat high unemployment in a period of massive restructuring of the economy, which resulted in an abrupt fall in total employment (by 6% between 2000 and 2003). Low wage pressure, a readily available pool of labour and changing demand for occupational skills allowed employers to use these new contracts to hire young workers and to screen their abilities. By the same token, job seekers, particularly young ones, were forced to accept more flexible employment contracts in order to enter the labour market as the supply of permanent positions declined by 15% between 2000 and 2003. Employment in manufacturing was hit particularly hard before rebounding somewhat after 2003. At the same time, the share of temporary employment grew across all sectors and all education groups, particularly among workers with only primary and secondary education.

After 2005 demand for labour increased dramatically across all major sectors of the economy. Improving economic conditions and falling unemployment led to a stronger recourse to permanent employment, especially for persons with tertiary and secondary education, whereas the share of temporary employees continued to increase among the low-skilled. In addition, a high tax-wedge for low-skilled workers with standard contracts (both permanent and temporary) may have also contributed to an increase in the use of Civil Law contracts among low-skilled workers.

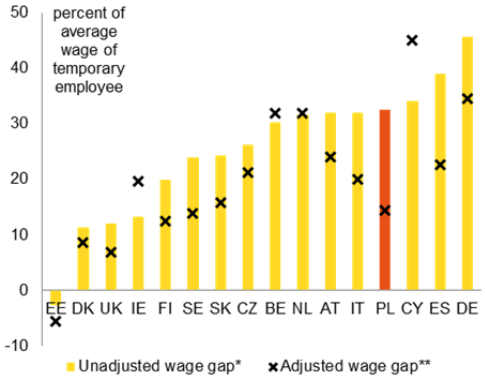
Graph 3: Share of temporary employment among employees (2013)



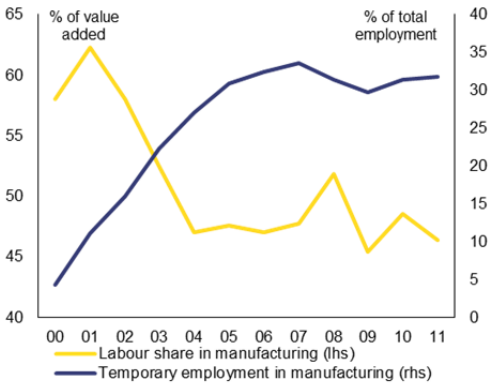
Source: Eurostat LFS

Temporary employment in Poland results in a measurable wage penalty, even after controlling for age, education and several other characteristics. According to the OECD's latest Survey of Adult Skills under the Programme for the International Assessment of Adult Competencies (PIAAC) the wage penalty reaches 14% (see Graph 4); a recent study by the European Commission estimates a penalty of 21%[8]. The increase in the share of temporary workers (by 20 percentage points between 2001 and 2011), under both the Labour Code and Civil Law, contributed, together with the overall situation in the Polish labour market, to a significant decrease of the labour share in total value added, which was most pronounced in the manufacturing sector (Graph 5). This unprecedented containment of unit labour costs bolstered the competitiveness of Polish goods and services and contributed to an increase in exports.

Graph 4: Wage penalty for temporary contracts (2012)



Graph 5: Labour share and temporary employment in manufacturing in Poland



Source: OECD Survey of Adult Skills (PIAAC) (2012), Eurostat
** The unadjusted wage gap for temporary contracts is calculated as the percentage difference between the average hourly wages (including bonuses) of permannt and temporary workers.*

*** Adjusted-wage-gap estimates are based on OLS regressions including controls for average literacy and numeracy scores, and dummies for highest qualification (4), occupations (9) and industry (10).*
Notes: Labour share is defined as the percentage of value added spent on compensation of employees.

Composition of Polish exports: low and medium-tech sells

The share of Polish exports increased substantially after 2000

Decentralized wage bargaining and the widespread use of temporary employment served the Polish economy well so far and have been a corner stone of the Polish growth model. This is particularly evident in export industries which are competing in international markets. Poland's share of world exports increased substantially between 2000 and 2009, with market shares in goods increasing by 0.6 pp. and markets shares in services rising by 0.3 pp. The global financial and economic crisis had a negative impact on export growth, but Poland was still one of the few EU countries whose world export market share of goods fell only moderately, while that of services stabilized by 2012.

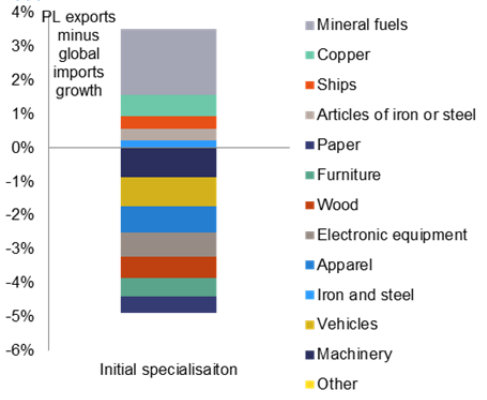
Polish exporters specialised in products with low global import growth, yet benefited from substantial price competitiveness gains

The export performance of goods during 2000-2012 can be broken down into initial product specialisation, initial geographical specialisation, export gains in geographical destinations and export gains in product markets.[9] Leaving aside the analysis of the geographical composition of Polish trade, the initial product specialisation in 2000 was not favourable for Polish exporters (Graph 6). Poland was heavily specialised in products with low global growth (paper, wood, apparel, machinery, electrical equipment and vehicles) and was not able to tap new highly-innovative and faster growing product markets. However, it benefited from the dynamic effects of increasing competitiveness in geographical and product markets (Graph 7). Exports grew much more strongly than global imports in several product categories (machinery, electronic equipment, vehicles, plastics and meat), mainly on account of limited growth in unit labour costs.

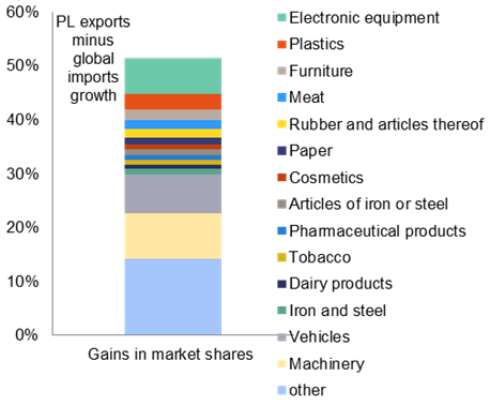
Polish exports remain concentrated in low-to-medium-tech industries and depend relatively more on unskilled labour.

Nonetheless, compared to peers, Polish exports remain concentrated in low-to-medium-tech, low-skilled-labour-intensive industries, while the share of high-tech exports remains relatively low. As benchmark countries, we use Germany and two Central and Eastern European Countries, notably the Czech Republic and Hungary. This set of EU Member States is meant to highlight Poland's position vis-à-vis key regional peers as well as vis-à-vis the exemplary case of a technologically advanced, export-driven Western European economy (Graph 8 and 9). The bias towards exports of low-tech, low-skilled-labour intensive exports is a reflection of the country's overall specialisation as described in the ECFIN Country Focus "Securing Poland's economic success: A good time for reforms"[10] in October 2014.

Graph 6: Poland's initial product specialisation in 2000

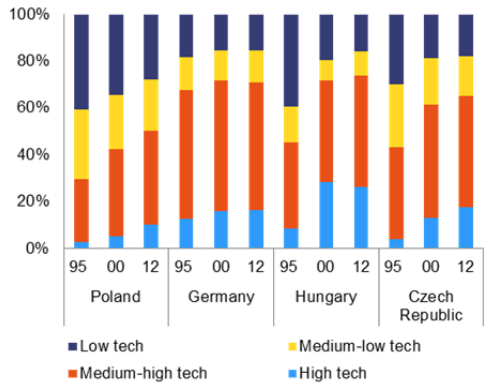


Graph 7: Poland's export gains by product in 2000-2012

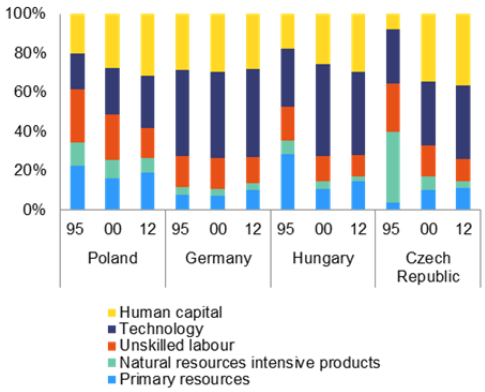


Source: UN Comtrade, Commission services calculations
Notes: Initial product specialisation indicates whether a country is specialised in sectors with dynamic global demand. It is expressed as the percentage contribution to the difference between growth of Poland's exports and growth of global imports. Export gains in product markets reflect the performance of Poland's exports within product markets and are the outcome of a country's competitive advantage (reflecting both price and non-price competitiveness). This is expressed as percentage contribution to the difference between growth of Poland's exports and growth of global imports.

Graph 8: Decomposition of exports of goods by factor intensity



Graph 9: Decomposition of exports of goods by technological content



Source: Eurostat, Commission services' calculations
Notes: The factor intensity of exports uses the factor-intensity classification at the 3-digit SITC revision 2 level by Hinloopen and Van Marrewijk (2006)

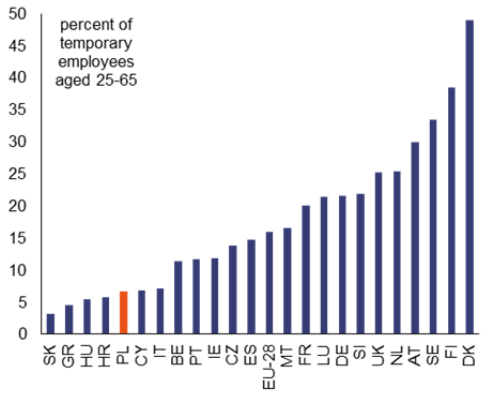
The impact of temporary employment on human capital, product specialisation and growth

Fixed-term contracts have a negative impact on training and lead to lower human capital accumulation

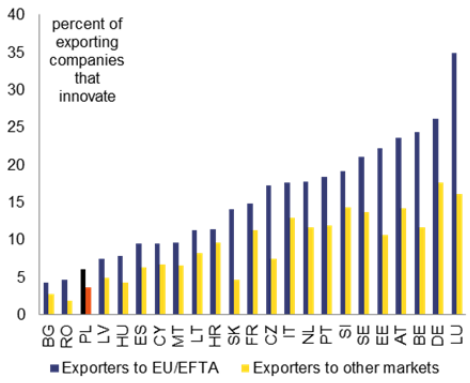
The high incidence of temporary employment has economic consequences beyond the labour market. Several studies find that marginal reforms of EPL (increasing flexibility 'at the margin' i.e. for employees on temporary contracts and creating dual labour markets) have an adverse effect on labour productivity (see for example Blanchard and Landier, 2002). Moreover, while strict dismissal regulations for regular contracts tend to have a dampening effect on productivity, restrictions on the use of temporary employment have, if any, a positive impact on TFP growth (Bassannini et al., 2008). According to Lisi (2013), the use of temporary contracts has a negative, even if small in magnitude, effect on labour productivity. Damiani et al. (2011) found that the deregulation of temporary contracts influences TFP growth in European economies negatively and that liberalising temporary employment discourages training and the acquisition of firm-specific skills. Moreover, Kleinknecht et al. (2014) found that, in sectors with a 'routinized' innovation regime, high shares of low-paid temporary workers have a negative impact on the probability that firms will invest in R&D, while flexibility has no impact in sectors that tend towards a 'garage business' regime. Finally, there is consensus among researchers on the negative impact of temporary employment on human capital and training opportunities of workers.[11]

In Poland, and in line with the findings of the literature, the intensive use of temporary contracts seems to impact negatively on the quality of human capital. The average literacy proficiency among 16-65 year olds in Poland is very low, though the literacy gap between older and younger cohorts is one of the highest among the countries analysed, indicating a gradual positive impact of increased access to tertiary education for younger generations.[12] However, the practical relevance of pre-tertiary education in Poland for job-related tasks remains low, as evidenced by low student performance in problem solving, a skill that is considered to be key for innovation.[13] In addition, the high incidence of temporary employment weighs on adult participation in education, which is one of the lowest in the EU and further impedes acquisition of skills (Graph 10). Moreover, the recent OECD survey of adult skills (PIAAC) concludes that in Poland and most other countries, controlling for numeracy and literacy skills, workers on fixed-term contracts use their information-processing skills less intensively than their colleagues in permanent employment.

Graph 10: Participation in life-long learning among temporary employees 25-65 years old (2013)



Graph 11: Share of innovative exporting companies in the EU (2010)



Source: Eurostat

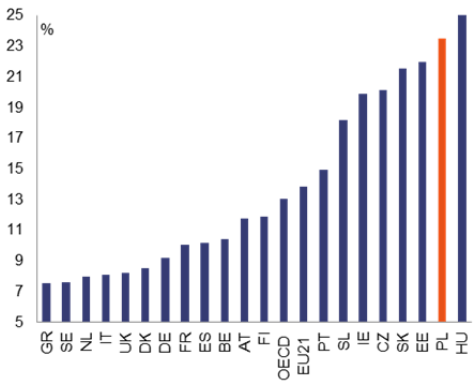
Widespread use of temporary employment inhibits the export upgrading

Overall, the design of some key labour market institutions in Poland has contributed to Poland's impressive past growth performance, yet, looking forward, can be viewed as an obstacle on the way towards an innovation-oriented economy. First, the widespread use of temporary contracts inhibits human capital accumulation, which leads to low innovation and R&D activity among exporting companies (Graph 11). Moreover, the changes in Polish employment protection legislation after 2000 facilitated an increase of the share of fixed-term contracts in the export sector and supported wage moderation. This drew foreign investors mainly to low-to-medium technology industries, which in turn further accelerated the development of cost-competitive low-skilled intensive sectors.[14]

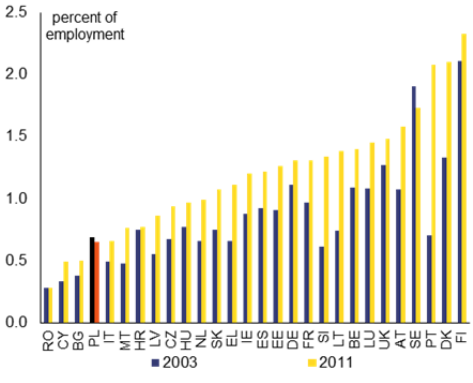
The intensive use of labour in the export sector, exacerbated by the intensive use of fixed-term contracts, can increase the relative price of human capital and weigh on long-term growth

Second, the possible downsides of a large endowment of low-skilled labour (in comparison to skilled-labour) and/or low relative wages of abundant factors of production are well anchored in modern growth theory.[15] Countries with a larger endowment of unskilled labour tend to specialise in the production of goods that use the abundant factor more intensively (typically low-to-medium-tech goods). Poland's past growth model was mainly based on cheap labour, supported by the intensive use of Civil Law contracts and temporary employment more generally. In a similar vein, and viewed from the angle of relative prices, elements that lower wages of a specific type of labour will reduce the price of the good that uses that type of labour more intensively and give rise to an expansion of output. At the same time, the relative wage of high-skilled labour increases, making human capital more expensive for more innovative sectors of the economy (Graph 12 and 13). The ultimate effect would possibly be to buy a current expansion of output levels at the cost of slower economic growth in the long run. These effects are corroborated by simulations with the state-of-the-art models of the Polish economy used by the Directorate-General for Economic Affairs, where an increase in the share of the low skilled in total employment has a positive effect on the current level of income, but a negative effect on labour productivity and R&D activities going forward[16].

Graph 12: Internal rate of return from tertiary education (2009)



Graph 13: Share of R&D personnel in total employment



Source: OECD Education at a glance (2012), Eurostat
Note: Values are based on the difference between males with a tertiary education compared to those with an upper secondary or post-secondary, non-tertiary education. The internal rate of return is the interest rate at which past private costs of investing in tertiary education equal the future benefits of such an investment i.e. it is the discount rate at which the investment breaks even.

Conclusions

The very high incidence of temporary employment in Poland — compared to other EU countries — can be a double-edged sword. It helped the country safeguard and improve its cost-competitiveness in a crucial catching up phase of its post-communist history. At the same time, it tends to favour a specialisation in low-medium-tech, low-skilled-labour intensive products and services which, while expressing the current comparative advantage of the country, do not necessarily produce the seeds of sustained economic growth in the medium and long runs.

Originally, the use of temporary contracts, including in particular temporary contracts under Civil Law, was meant to be confined to a limited number of cases. In practice, however, they have been and are being offered and signed across all sectors of the Polish economy for a wide range of professional profiles and purposes. Their positive effect on overall employment levels contrasts with a potentially negative impact on human capital accumulation and might be a serious impediment to more innovation-driven productivity growth.

Poland is not the only European country with a high share of temporary employment contracts. Spain, Portugal and the Netherlands also feature a high degree of labor market duality with a significant wage penalty for temporary employment. The ultimate impact of this duality on product specialization, innovation and long-term growth is likely to depend on many factors including the institutional setup of a country and the stage of economic development and the education system. It is therefore difficult to establish a common 'tipping point' at which labor market duality starts to hamper growth. However, in the case of Poland both conceptual considerations and empirical findings suggest that the very high share of temporary employment in combination with other elements of the economy is a mixed blessing at best.

The Polish government is currently reviewing some of the parameters of the Civil Law contract in order to possibly dampen the impact of its widespread use on social security and social equity. Yet, underlying tension persists between safeguarding the cost-competitiveness of the current economic model, on the one hand, and improving non-cost competitiveness, on the other, in particular the level of innovation so as to gradually move towards a new economic model.

Economic policy needs to keep a close eye on this tension. While cost-competitiveness remains a key ingredient of the current economic model in Poland, human capital development, innovation and other non-cost factors deserve increasing attention, also when reviewing labour market institutions.

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[1] Railways, public administration, education except for teachers, state forestry, the military, brown coal mining, energy supply, Polish Telecom and a small part of the construction sector
[2] Eurofund, http://www.eurofound.europa.eu/eiro/country/poland_4.htm
[3] In particular, permanent contracts provide for a notice period of up to one month for workers employed for less than three years and three months for workers employed for three or more years. In case of fair dismissal, there is no severance pay and the definition of fair dismissal is relatively wide, even though the burden of proof before the court rests with the employer. The Polish Labour Code allows for entry into two successive fixed term contracts, but their length is unlimited.
[4] Employees which work under Civil Code contracts are classified in the Labour Force Survey (LFS) either as employees, when they perform their duties without establishing a company, or self-employed when they establish a company.
[5] Civil law contracts do not provide for a notice period or holiday provisions and do not entail payment of some (mandate contract) or any social security contributions (contract for specific work)
[6] 207 thousand out of 818 thousand. However, the sample is probably biased as the office usually checks only the enterprises that are suspected of non-compliance with the Labour Code.
[7] National Bank of Poland Labour Market Survey (2014) – survey of 1085 enterprises, of which around 55% use Civil Law contracts.
[8] See Dias da Silva A., A. Turrini (2015), Precarious and less well-paid? Wage differences between permanent and fixed-term contracts across the EU countries, European Economy. Economic Papers. 544.
[9] Initial product specialization and initial geographical specialisation indicate whether a country is specialised in sectors with dynamic global demand and whether destination countries are dynamic markets. The two remaining components measure the performance within product markets and within geographical markets and are the outcome of a country's competitive advantage (reflecting both price and non-price competitiveness).The decomposition follows the formula:

$$g^e - g^* = \tfrac{1}{2}\left[\underbrace{\sum_i w_i^e (g_i^* - g^*)}_{ISG} + \underbrace{\sum_s w_s^e (g_s^* - g^*)}_{ISP} + \underbrace{\sum_i w_i^e (g_i^e - g_i^*)}_{MSGG} + \underbrace{\sum_s w_s^e (g_s^e - g_s^*)}_{MSGP}\right]$$

where g^e — growth rate of total exports of country e, g^* — growth rate of global imports, w_i^e — share of exports from country e to country i in total exports of country e, w_s^e — share of exports from country e in sector s in total exports of country e, g_i^e — growth rate of exports from country e to country i (of all products), g_s^e — growth rate of exports from country in sector s (to all destinations), g_i^* — growth rate of total imports of country I, g_s^* — growth rate of global imports in sector s.
[10] See Bogumil and Wieladek (2014) available at :http://ec.europa.eu/economy_finance/publications/country_focus/2014/cf-vol11_9_en.htm
[11] Arulampalam and Booth (1998) found that in Great Britain workers on short-term employment contracts are significantly less likely to be involved in any work-related training to improve their skills. These findings were later corroborated by Albert et al (2005) for Spain, Wallete (2005) for Sweden, and Sauermann (2006) for Germany. Finally, Arulampalam et al (2004) also presented evidence of a negative impact of fixed-term employment on training for several European countries (Austria, Belgium, Denmark, Finland, France, Ireland, Italy, Netherlands, Spain, and UK). They also found that in most countries training is positively associated with high educational attainment.
[12] See OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing
[13] See OECD (2014), *PISA 2012 Results: Creative Problem Solving: Students' Skills in Tackling Real-Life Problems (Volume V),* PISA, OECD Publishing.
[14] Bruno et al. (2012) found that FDI inflows into Poland decreased the relative demand for skilled labour force.
[15] See Grossman G. M., Helpman E. (1991), Innovation and growth in the global economy, MIT Press.
[16] See Varga J., J. in 't Veld (2014) The potential growth impact of structural reforms in the EU A benchmarking exercise