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Is Flexicurity a Help or a Hindrance?**

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Economic Growth in the EU: Is Flexicurity a Help or a Hindrance?

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ABSTRACT

In the light of the recent economic crisis, flexicurity has permeated many European Union (EU) policies with the hope that more flexible labour markets alongside modern social security systems and active learning can reinvigorate economic growth. This paper employs a variant of the Solow growth model to examine the impact that flexicurity had on economic growth in 27 EU Member States for the years 2000 to 2015. Using principal components to capture the multi-faceted concept of flexicurity, the results reveal that, in isolation, flexicurity failed to provide any growth stimulus. Lifelong learning, active labour market policy and modern security systems proved. However, incorporating the role of the social partners and trust into the model provided a more positive picture of the flexicurity-growth relationship.

INTRODUCTION

Global recession merely intensified interest in economic growth, which has long been a major preoccupation of academics and policy makers alike. The focus of empirical attention in this work is, however, confined to the 27 Member States of the European Union (EU) prior to the accession of Croatia in July 2013. The EU was one of the more egregious victims of the crisis. Following a decade of largely benign progress in union-wide living standards (European Commission, 2010), Greece, Ireland, Portugal, Spain and Cyprus all required assistance packages of one form or another in a fairly short space of time and, in the former instance, this was associated with a good deal of public speculation regarding both the country's exit from the Euro (Grexit) and even the collapse of the currency union itself (Wilkinson, 2015).¹

In contrast, many, if not most, empirical growth exercises have relied on a broader cross-section of countries, advanced and developing alike. This clearly increases the number of observations available. However, this benefit comes with a variety of costs. Perhaps most notable is the broad heterogeneity of background introduced into the research framework, which has been recognised by the introduction of controls for *inter alia* trade policy (Dollar and Kraay, 2003), aspects of the fiscal and monetary policy stances of governments (Batista and Zalduendo, 2004), geographical factors (Gallup *et al.*, 1998), institutions (IMF, 2003), religion (Barro and McCleary, 2003), trust (Knack and Keefer, 1997) and democratic tendencies (Baum and Lake, 2003). Another complication relates to the question of data quality and even its meaning and interpretation across disparate landscapes (Sianesi and Van Reenen, 2003). Although the point should not be overstated, Member States share somewhat greater unity, although recent enlargements have led to a considerably more heterogeneous Union. Notwithstanding this, all are bound by a common trade policy and agree

¹ A common culprit identified as the root cause of the failure to overcome the pressures exerted by the crunch lies with the creation of a monetary union for many Member States without a corresponding fiscal union, which leads to problems of potential free-riding that are exacerbated in difficult times (Larch *et al.*, 2010).

collectively to its amendments. While members of the Eurozone are subject to somewhat tighter constraints, all are subject to the rigours of the Economic and Monetary Union, including the Stability and Growth Pact, with its notional restrictions on government deficits and debt levels. Furthermore, adherence to the principles of democracy is a precondition of membership. Finally, concerns about the meaning and quality of data are mitigated in a bloc such as the EU in which a central statistical office (Eurostat) is tasked with delivering comparable data across Member States. However, none of this is sufficient to eliminate freedom of action on the part of relevant agents or to preclude meaningful cross-country differences in outcome.

Significant among later attempts to provide an overarching direction to structural policies aiming to improve economic performance, without increasing inequality, was the flexicurity agenda (European Commission, 2007). What is blatantly a hybrid notion represented the latest in a line of attempts to resolve the long-standing enmity between those favouring greater flexibility for the EU's labour markets and those championing worker security. Its goal is to capture the best of both worlds and it is designed, in theory at least, to help Europe meet the labour market demands of increasingly rapid change in economic, social and demographic circumstances, while ensuring not too great an inequality in outcomes. Conceived originally as an input to the renewed Lisbon Strategy (European Commission, 2005), it calls for greater adaptability of workers and enterprises and thereby higher productivity (European Commission, 2007). In doing so, it turns the focus from job security to employment security. However, none of this is costless and there is therefore the possibility that the distortions entailed might outweigh the benefits. Nonetheless, flexicurity is now an integral element of the current EU 2020 strategy (European Commission, 2010), which aims to deliver smart, sustainable and inclusive growth to the Union.²

² Unsurprisingly, there is a good deal of overlap between the flexicurity agenda and the OECD Jobs Strategy (OECD, 1994).

This paper aims to provide an initial investigation into the impact that such flexicurity has had on growth - measured here as GDP per head of population - over the period 2000 to 2015. Somewhat surprisingly, this is an area that has received little attention to date in the empirical literature. In terms of the structure of the paper, the central components and potential shortcomings of the flexicurity programme are outlined in Section 2, as they represent the structural policy measures that this paper will employ to embellish a basic growth model in its attempt to explain differences in the European growth experience. The following section describes the empirical model to be estimated. Building on the basic framework employed by Mankiw *et al.* (1992), it specifies how this is to be augmented by flexicurity indicators and outlines the measurement of the variables employed. Also included in this section is a discussion of the many ways in which flexicurity can be measured. The discussion of the empirical strategy and results occupies Section 4. Here it is shown that, taken in isolation, flexicurity has depressed growth but that when present alongside high levels of social partner engagement, or a general environment of trust, it can provide an economic stimulus. A summary and conclusions close the paper.

FLEXICURITY, GROWTH AND THE CRISIS

Coined by the Dutch sociologist Hans Adriaansens (Wilthagen and Tros, 2004), flexicurity is an attempt to reconcile the seemingly conflicting goals of flexibility and security on labour markets; in one sense therefore, an effort to marry economic and social policy.³ As such, the flexicurity agenda sits within the European Employment Strategy which is described in van Rie and Marx (2012).

Following the period of Eurosclerosis (Giersch, 1985), with slow growth and high unemployment, the search for new solutions was unsurprising and, although the underlying problem was often viewed

³ On the frequently misleading distinctions made between economic and social policy and their analysis, see Kanbur, 2006).

in terms of an overly rigid labour market (e.g. Boeri and Garibaldi, 2009), the requisite flexibility was not to be pursued with disregard for equity (European Commission, 2007).

The theoretical underpinnings of the relationship between labour flexibility and growth have been addressed at the firm level by Bentolila and Bertola (1990) and, in a general equilibrium framework, by Hopenhayn and Rogerson (1993). The argument is that highly regulated labour markets constrain the flexibility of a firm's employment policy making hiring a risky proposition due to the costs of terminating contracts. As such, labour market distortions can encourage firms to use labour inefficiently causing productivity to fall. Obviously, such distortions can improve workers' welfare by stabilizing employment, but this loss of flexibility comes with the cost of reduced efficiency.

This view was reflected both in the OECD Jobs Survey of 1994 (OECD, 1994) and work by the IMF (1997). To improve economic performance, four factors were identified; increased flexibility of working time schedules, making labour wages and costs more flexible, reforming unemployment benefits and labour protection. Alongside this it has been recognised that any flexicurity agenda needs to include a reasonably generous social safety net and an effective re-activation regime for displaced workers (Martin and Scarpetta, 2012).

In the face of the challenges to be overcome from growing global integration, technological development, demographic ageing and segmented labour markets, the EU decided that action was necessary in the design of effective policies in the following four component areas of concern:

- (1) *Flexible and reliable contractual arrangements*
- (2) *Comprehensive lifelong learning (LLL) strategies*
- (3) *Effective active labour market policies (ALMP)*
- (4) *Modern social security systems*

(European Commission, 2007).

Each of these, it was intended, would contribute to the emergence of more flexible labour markets on which all actors, employees and employers alike, would gain a heightened sense of security and thereby serve to achieve the overall ambitions of the Union.

At the company level, flexicurity is, in principle, designed to simultaneously appeal to employers and employees alike. However, in practice there tends to be scepticism, with trade unions viewing the policy as a means to deregulate labour markets and erode worker protection. Conversely, employers view it as a means to manage volatile and uncertain demand. That said, even flexibility can be employee friendly if it encompasses practices to improve the work-life balance via flexible working time, training and LLL. The role of the social partners in flexicurity is potentially evident at three levels. At the political level, they can be involved in the definition and the management of flexicurity policies, although the extent of their involvement depends upon the nature of national industrial relations systems. At the regulatory level, flexicurity should be included in any workplace level collective bargaining negotiations. Finally, it can also form an important part of the relationship between unions and their members in terms of issues such as job placement and training.

To date, there has been little systematic work on the impact of flexicurity on economic performance and that which exists fails to provide an unambiguous conclusion as to its efficacy. In an early contribution to the debate, Michie and Sheehan (2003) presented evidence that the use of flexible contracts was associated with reduced levels of innovative activity, which might be expected to be detrimental to growth. Their work also found that rates of labour turnover were negatively related to innovation and they, of course, would normally be expected to be positively associated with the use of temporary labour.

In a more recent paper, Auer (2010) showed that some of the countries classified as having flexible labour markets recorded the highest increase in unemployment rates during the financial crisis and highlights the poor performance of Denmark in terms of GDP growth and employment. Interestingly, a recent paper by Jensen (2017) traces the roots of the Danish flexicurity model back to the late 19th

century and the craft unions. This author contends that flexicurity in the country had actually passed its peak by the time the concept entered the common lexicon. Results by Dolenc and Laporšek (2013), covering the period prior to the financial crisis, also failed to provide a clear indication of the likely impact of flexicurity on growth. Of the flexicurity measures, only spend on active labour market policies was significant and was found to exert a positive influence on both labour and total factor productivity.

In 2009, during the Great Recession, EU GDP fell by 4.2% (European Commission, 2010), although these aggregate figures conceal marked variation with Germany, Italy and the UK recording year-on-year GDP falls in the range of 6-7%, whereas, in Poland, growth remained positive, albeit slowing. The Baltic States fared particularly badly with Estonia and Latvia suffering GDP declines of 15% and 20% respectively (European Commission, 2010). In 2010, around 23 million individuals were unemployed in the EU, which represented close to 10% of the economically active population (European Commission, 2011).

To a degree, the recession put the flexibility agenda to the test; how would employment react and what role would the social partners play in achieving the right balance between flexibility and security? (Glassner and Keune, 2010). The authors highlight four areas in which the social partners played key roles:

- (1) The promotion of employment and safeguarding of jobs via flexible reductions in working time.
- (2) Increasing employment through vocational training and re-skilling.
- (3) Facilitating changes in work organization to support company programmes of restructuring.
- (4) Allowing temporary deviations from collectively agreed pay rules.

(Glassner and Keune, 2010: 16)

In the event, the average fall in employment in the Union was of the order of 6%. The Baltic States experienced the sharpest decline, with the figure for Latvia being 19%. Of the EU-15, Ireland experienced a 12% drop, mainly due to the country's exposure to the construction sector.

Employment in Germany and Poland was resilient to the crisis (European Commission, 2010).

The diversity of labour market reactions to the output fall can, to a degree, be linked to facets of flexicurity. Both Ireland and Spain suffered increases in unemployment rates of around 7.5%, notwithstanding the fact that the output fall in Ireland, which was more than 8%, was around twice as high as that suffered by Spain (IMF, 2010). Germany suffered an output drop of 7% but the country's unemployment rate fell (IMF, 2010). The former finding is attributable to the high density of temporary workers in Spain who lost their jobs in the recession. Temporary workers in Belgium, France, Italy, Germany and the Netherlands suffered a similar fate, although the use of fixed-term contracts was less extensive in these countries. Whilst output and employment both fell by 6% Denmark, the unemployment rate increased by far less, due to the fact that not all losing jobs were eligible for benefit and so failed to register their jobless status, there was also a trend towards displaced workers returning to education and some migrant workers left the country (Andersen, 2012). In the case of Germany, employment was sustained by the adoption of short-time working (*Kurzarbeit*), with the costs of this shared between workers, firms and the state. Italy and the Netherlands adopted similar schemes. Other examples of flexicurity policies include the flexibilization of pay in Finland, Germany and Sweden and the introduction of training programmes for the unemployed in France and Italy (Glassner and Keune, 2010).

MODEL, DATA AND DESCRIPTIVE STATISTICS

The empirical model is a variant of the augmented Solow model used by Mankiw *et al.* (1992), since countries are not assumed to be in steady state, with the structural estimation of the transitional dynamics treated by the error correction model employed by Bassanini and Scarpetta (2002). Thus,

$$\begin{aligned} \Delta \ln y_{it} = & a_{0,i} - \phi_i \ln y_{t-1} + a_{1,i} \ln k_{i,t} + a_{2,i} \ln h_{i,t} + a_{3,i} \ln(n + g + d)_{i,t} + \sum_{j=4}^m a_{i,j} \ln A_{i,t}^j + \\ & \sum_{t=1}^T a_{m+1,j} t_i + b_{1,j} \Delta \ln k_{i,t} + b_{2,j} \Delta \ln h_{i,j} + b_{3,i} \Delta \ln(n + g + d) + \\ & \sum_{j=4}^m b_{j,i} \Delta \ln A_{i,t}^j + \varepsilon_{it} \end{aligned} \quad [1]$$

where $\Delta \ln y$ is the rate of growth of GDP per capita, k is the share of investment in GDP as a proxy for savings, h is human capital, measured here as the percentage of the population with tertiary education. n is the population growth rate. Following Islam (1995) and Mankiw *et al.* (1992), technical progress (g) and the depreciation rate (d) are assumed constant across countries and equal to 0.05. A^j is a vector of flexicurity measures, outlined below, and $\sum_{t=1}^T a_{m+1,j} t_i$ a series of time dummies. Lagged GDP is included in the regressor set to capture convergence. The a 's represent the long-run coefficients, with the $a_{0,i}$ capturing country heterogeneity, while the b 's capture the short-term dynamics. ε is the error term.

Measuring flexicurity

As Chung (2012: 154) noted, 'there are as many definitions of flexicurity, as there are as many researchers engaged in the research of flexicurity'. Some work utilises the rather narrow Danish golden triangle framework proposed by Madsen (2004), which looks for the existence of a flexible labour market alongside ALMP and generous welfare systems. This though is somewhat at variance with the broader approach adopted by the Commission which explicitly considers different pathways that lead to flexicurity (European Commission, 2007). Given the multiplicity of factors to consider, some authors propose composite indicators to overcome the problem (Bertozzi and Bonoli, 2009; and Maselli, 2010). This, however, brings problems of its own. First, the choice of weights, if any, to be assigned to various components of the index is arbitrary. Second, if separate measures are included, for example, for both LLL and ALMP, it automatically places greater emphasis on the training component of flexicurity. More sophisticated work by the ILO (Auer and Chatani, 2010) has taken a principal components approach to shrink the number of potential variables proposed to indicate the use of flexicurity principles. This is the approach adopted in this paper.

Here measures are selected in accordance with the four key components of flexicurity adopted by the Commission in 2007 and later re-affirmed in the EU-2020 strategy, as listed in Section 2 above. Their use coheres with the belief that no single indicator will suffice to capture the extent to which the policies of individual Member States are consistent with the precepts of the multi-faceted flexicurity concept (Manca *et al.*, 2010).

Flexible and reliable contractual arrangements

Flexibility has a variety of meanings to different labour market observers and has been seen as both a strategy and as a reference to a form of employment (Van Eyck, 2003). There is also no clear agreement as to the constituents of the flexible workforce, although the contrast is usually with a standard worker possessing a full-time, permanent contract of employment. This, of course, renders the residual both heterogeneous and potentially large (Kalleberg *et al.*, 2000). At the risk of some simplification, the flexible workforce is here divided exhaustively into the proportion of total employment employed on temporary contracts (*TEMP*), the self-employed (*SELF*) or who are classified as unpaid family workers (*UFW*). Coverage is for those aged between 15 and 64.

Certain comments regarding the chosen disaggregation of the flexible workforce are in order. First, in glaring conflict with much that has been written about the subject, there is no mention of part-time working. In part, this is data driven: to include a separate category based on Eurostat statistics would involve a good deal of double counting. It also, however, recognises the fact that a significant proportion of workers with open-ended contracts are employed on a part-time basis. Second, it identifies UFWs as a separate element, which is not normal practice, possibly arising from a somewhat misguided assumption that such workers are merely incidental to labour force counts within developed economies. For clarity, Eurostat defines family workers as “persons who help another member of the family to run an agricultural holding or other business, provided they are not considered as employees. Persons working in a family business or on a family farm without pay should be living in the same household as the owner of the business or farm, or in a slightly broader

interpretation, in a house located on the same plot of land and with common household interests.”
(European Commission, 2003: 43).⁴

Comprehensive lifelong learning strategies

The definition of LLL adopted by the Commission encompasses ‘all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective’ (European Commission, 2001:9).⁵ This gives rise to the recognition of three types of qualifying actions. Formal education is that provided by the institutions that represent the learning environment for what is normally an audience of children and young people. Non-formal education is represented by organised and sustained educational activities not corresponding exactly to the definition of formal education. Informal learning is taken to be less organised and structured than the two preceding categories, but is nevertheless characterised by the intention to learn. None of these classifications rely on the content being work related.⁶ However, from 2004 onwards, the Labour Force Survey (LFS) has excluded informal learning activity. Random learning that is the unintentional by-product of a non-learning pursuit is excluded from the definition of LLL. The current, official EU target is for at least 15% of those aged 25-64 to participate in LLL in a period covering each Eurostat Labour Force Survey week, and the three weeks preceding it, by the year 2020 (EU Council, 2009) and that age range defines the current variable (*LLL*).

Effective active labour market policies

⁴ As such, UFWs should not be confused with externally recruited domestic and care workers who are the source of a separate debate.

⁵ Lifelong learning is a misnomer, given that LLL is meant to cover all learning from the cradle to the grave and not be restricted to those aged 25-64 (European Commission, 2000:7).

⁶ Prior to 1998 the LFS only covered work related learning.

Labour market policy interventions covered fall into three general categories: services, measures and supports. The second group refers mainly to actions that are aimed at the activation of the unemployed and those involuntarily out of the labour force or the maintenance of the jobs of those threatened by unemployment. The third group encompasses financial assistance to individuals disadvantaged by labour market circumstances and includes unemployment and early retirement benefits. In turn, these can be associated with what are frequently known as active and passive policies.

However, the first group, services, is the source of some disagreement. While the category includes administrative functions and overheads of national employment services, it also covers search and matching responsibilities. Eurostat chooses to present only a total figure for services and does not form a sub-aggregate that combines such spending with that under its active or passive expenditure totals beyond the grand total for LMP overall. Here, ALMP expenditure as a percentage of GDP spent on active policies, including services, is the measure selected.

Modern social security systems

To capture income security two measures are employed. The first is the percentage of the population earning below 60% of median equivalised income after social transfers (*POVERTY*).⁷ The second is the percentage of GDP spent on passive labour market policies (*PLMP*). Arguably the first gives a fuller picture of relative income security than does a narrow focus simply on passive transfers since passive labour market spending only covers out-of-work income maintenance and support for early retirement provision. In addition, spend is a policy whose aims may not be realised,

⁷ Equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale.

whereas poverty is an outcome. The indicator does however have limitations insofar as it provides no information on the actual shape of the income distribution.

The role of the social partners and trust

Alongside the measures outlined above, flexicurity requires dialogue among all stakeholders and a general climate of trust. Evidence on the role of the social partners in flexicurity is scarce due to the dearth of data. A 2008 report by the European Foundation (Pedersini, 2008) provides an in-depth analysis of flexicurity for the Member States, although the work does not span the full period covered here. Obviously, there is a good deal of heterogeneity across countries making an overview difficult and, as the author acknowledges, any attempt to classify countries is subjective. That said some salient patterns emerge. In the majority of countries, there is a high level of involvement of the social partners at the political level, but their participation at both the regulatory and unilateral levels is significantly less. Only five countries – Ireland, Luxembourg, Portugal, Sweden and Germany – score highly on these two measures but, of these, in Germany the social partners have low involvement at the political level. In general, poor outcomes at all three levels are evident in the Eastern and Southern countries.

To try to capture this, variants of the model include interaction terms. In, particular the flexibility variables are interacted with measures intended to reflect the extent of social partner engagement; these being the share of companies with employee representation on boards (*EREP*), the share of companies consulting employees before introducing restructuring measures (*CON*) and the decentralisation of collective bargaining (*BAR*). The expectation here is that all of these should increase the success of flexicurity as social partners can use the dialogue to potentially secure mutually beneficial outcomes; e.g. opportunities for up-skilling.

Within the literature, it is argued that trust is required for flexicurity to succeed. Klindt and Møberg (2006) note that German employers devote significant administrative resources ensuring that

flexible workers actually work the number of hours they are contracted to do, whereas Danish employers trust their workers with time autonomy. Similarly, Algan and Cahuc (2006) argue that the Danish flexicurity model would not be feasible in countries which do not have the same high level of 'public-spiritedness', which the authors interpret as a low inclination to cheat on public benefits.⁸ The importance of trust is also stressed by European Commission (2007a), which notes the role of trust between the government and social partners and highlights the importance of citizens being confident about future employment opportunities. Furthermore, with regard to collective bargaining, Ibsen and Mailand (2009) note the importance of trust between employers and the social partners. To capture this, interaction terms which reflect the general level of trust within a country (*TRUST*) are also examined.

An overview of the flexicurity measures utilised, averaged over the period under investigation, is provided in Table 1. As is evident from the table, the incidence of temporary working varies greatly. In Romania, it is almost non-existent whereas, in Spain, almost one-quarter of those in employment were working on such a contract. Although it might be conjectured that this working arrangement is likely to be more prevalent in the old EU-15 than in the newer entrants, Poland recorded the second highest average figure and had overtaken Spain by the end of the period. Self-employment also shows marked variation across the sample from a high of 30% in Ireland to only 7% in the Czech Republic and Hungary. Notably, self-employment is high in the Southern European states. In general, the incidence of unpaid family working is low with the exceptions of Romania and Greece, with figures of 19% and 9%, respectively.

Some of the highest rates for lifelong learning are to be found in the Nordic countries, with over 20% of adults aged between 25 and 64 in Denmark, Finland and Sweden participating in such activity. Of

⁸ Viebrock and Clasen (2007) point out that public control in countries such as Denmark give the unemployed few opportunities to defraud the benefit system.

the remaining countries, only the UK has a comparable record. In general, the New Member States (NMS) have a poor record in adult learning; only Slovenia has more than 10% of its target population participating. However, Greece and Portugal perform no better on this metric and the former country only manages to outperform the two 2007 entrants, Bulgaria and Romania. Spending on ALMP is low across the Union and only exceeds 1% in Denmark. Rather more resources are targeted at PLMP with Denmark again being the highest spender with a figure in excess of 3% However, the figure is below 1% in 14 of the 27 countries, 12 of these being 2004 NMS.

In terms of employee representation on boards, figures in excess of 60% are recorded for Denmark, Finland, the Netherlands and Sweden whereas, in Cyprus and Romania, the figures are below 10%. In both Denmark and Finland, there is consultation over restructuring in at least 70% of companies, whereas this only occurs in 8% of firms in Portugal. The collective bargaining variable takes only three values which indicate the degree of decentralisation of bargaining: 1 (centralised); 2 (intermediate) and 3 (decentralised). Here the Baltic States, along with Hungary, Malta, Poland and the UK are revealed to have the most de-centralised systems and Belgium the most centralised. Finally, Finland and Sweden, along with the Netherlands, stand out as the most trusting with more than 60% of citizens in these countries claiming to trust others. The lowest values for this variable are recorded in Cyprus (9%) and Romania (11%). Summary statistics for all the remaining regressors in the model are presented in Appendix Table A1.

EMPIRICAL STRATEGY AND RESULTS

Prior to the discussion of the results, two empirical issues merit attention. The first is the inter-related nature of many of the dimensions of flexicurity which resulted in high levels of correlation between the measures utilised here. To mitigate against the effects of this, Principal Components Analysis (PCA) was used to reduce the dimension of the data. *TEMP*, *SELF*, *UFW*, *ALMP*, *PLMP*, *LLL* and *POVERTY* were included in the variable set used for the analysis. As is standard practice, only those components where the eigenvalues exceeded one were retained which resulted in two

PCs. The first component reflected *ALMP*, *PLMP*, *LLL* and *POVERTY* and the second *TEMP*, *SELF* and *UFW*. PCA analysis was also conducted on various sub-sets of these measures but the exercise utilising all seven flexicurity measures yielded the highest KMO statistic (Kaiser, 1974).

The second issue relates to the structure of the panel insofar as the time dimension is relatively large in relation to the number of countries. This means that certain estimators are inappropriate as they rely on asymptotics, requiring that the number of countries in the panel tend to infinity whilst the time dimension remains fixed. Furthermore, whilst most panel estimators can incorporate standard errors that are robust with respect to unknown forms of heteroscedasticity and autocorrelation, these require that the disturbances are cross-sectionally independent.

In the case of the EU, it is difficult to argue that the country-level data will be spatially uncorrelated. First, all Eurozone countries and, to a lesser extent, the other member states face many common monetary and fiscal policies dictated by the European Central Bank. In addition, all EU members are vulnerable to international macroeconomic shocks. Finally, all of them are also affected by legislative changes emanating from Brussels. If this is ignored, although coefficient estimates from standard panel models are consistent, commonly employed covariance matrices are biased, thereby rendering statistical inference unreliable (Hoechle, 2007). Here, a variant of the Driscoll and Kraay (1998) covariance matrix developed by Hoechle (2007), is used, which is robust to general forms of spatial and temporal dependence and is suitable for the shape of the panel employed.

The base estimating equation used here is:

$$\ln\left(\frac{y_{i,t}}{y_{i,t-1}}\right) = a_{0,i} + \phi_1 \ln y_{i,t-1} + a_1 \ln INV_{i,t} + a_2 \ln HC_{i,t} + a_3 \ln POPGRW_{i,t} + b_1 \Delta \ln INV_{i,t} + b_2 \Delta \ln HC_{i,t} + b_3 \Delta \ln POPGRW_{i,t} + e_{i,t} \quad [2]$$

where the time dummies have been omitted for simplicity. The model is then augmented to examine the validity of the inclusion of flexicurity as a determinant of growth. Initial screening revealed the endogeneity of investment and so the results presented mainly use an instrumental

variables (IV) approach with lagged differences in investment, for periods $t - 1$ to $t - 4$, used as instruments. The estimation period is 2000-2015, where the former year represents that when accession talks commenced with of the NMS.

Here, the results from the OLS estimation of the baseline model are presented in the first column of Table 2 and show that all long-run parameter estimates are significant at the 1% level and conform to expectations, insofar as investment and human capital promote growth, whereas the composite term incorporating population growth suppresses it. The negative, significant, estimate for lagged GDP confirms the presence of conditional convergence. These results are robust when the IV estimator is used in Model 2.

In the third column, the model is augmented by the flexicurity PCs. As discussed above, *FLEX1* is heavily dominated by *ALMP*, *PLMP*, *POVERTY* and *LLL* while *TEMP*, *SELF* and *UFW* dominate *FLEX2*. The results from including these measures show that the labour market security measures and active learning have no effect on economic growth. There is evidence that flexible contractual forms serve to depress growth as the parameter estimate for *FLEX2* is negative.

As discussed above, it is argued that the degree to which flexicurity is likely to provide an economic stimulus is, at least in part, dependent on the role of the social partners and the level of trust evident in the economy. To investigate this, the model is initially augmented with the interaction of the flexicurity PCs and *EREP*, *CON*, and *BAR*. The results of this are reported in Models 4 to 6 in the Table. In all of these, both of the flexicurity PCs are negative, although the result for flexible work practices is insignificant in Model 4. However, in these models, all the interaction terms including *FLEX1* (labour supports/learning) are significant and positive, providing support for the importance of social engagement alongside flexicurity. Conversely, the interaction terms involving flexible contractual forms fail to achieve statistical significance. Broadening the perspective by looking at the co-existence of flexicurity and trust (Model 7) results in significant positive coefficients for both of

the interaction terms. Sight should not be lost though of the fact that the magnitude of the parameter estimates for these is small.

In sum, the results presented here provide a mixed picture of the role flexicurity may play in a country's economic growth. There is evidence that, taken in isolation, a workforce characterised by a high proportion of workers employed on temporary contracts, who are self-employed or who are working unpaid in a family business serves to suppress growth. This suggests that these non-traditional work forms are not leading to enhanced productivity and, thus, although they undoubtedly offer firms flexibility this does not translate into economy-wide growth.

Labour market policy spend, along with active learning, appear more benign insofar as a strong (significant at the 5% level) negative impact on growth arising from these factors was only uncovered in two specifications of the model. This may reflect of the nature of such support. Whilst high levels of spending on learning should result in improved skills and better matching between individuals and opportunities, where support levels are high individuals may be prepared to extend a period of joblessness to secure a better position or to pursue other activities.

Bringing social partner engagement and trust into the analysis provides a more favourable picture given that the results revealed a positive, and significant, effect of certain of the interaction terms on growth. Even though the magnitude of the coefficient estimates for the interaction terms is small for the *FLEX1* measure, the positive effect of labour market spend and learning dominates at levels where 25% or more of firms have employee representation on boards, 48% or more companies consult employees over restructuring and in all countries where bargaining is not centralised. This positive effect of labour support also dominates at a relatively low level of trust; some 15%.

However, social partner engagement fails to overturn the negative finding for flexible work practices and the percentage of the population who trust others needs to rise to 65% before these exhibit a positive effect on growth and this level of trust is only observed in Denmark, the Netherlands and Sweden.

SUMMARY AND CONCLUDING REMARKS

Although the EU has experienced a moderate expansion in economic activity following the recent recession, the recovery is not complete insofar as investment is weak and unemployment is higher than before the crisis. From an EU perspective, flexicurity has been viewed as a central driver of economic prosperity and remains so under the Europe 2020 Strategy. The results discussed in this paper provide only limited support for the positive role of a flexible labour market alongside adequate security mechanisms and opportunities for lifelong learning. In fact, for the EU over the time frame investigated, the composite measures employed for flexible work arrangements was consistently found to depress economic growth, as opposed to generating the stimulus the Union hoped for. Labour support and learning were more benign and when this measure was interacted with facets of social partner engagement or trust a growth dividend was revealed. Flexible work arrangements were only found to promote growth in countries with a high level of trust.

At the national level, the debate concerning increasingly flexible forms of work now tends to involve employers – who favour flexibility – and the social partners who voice concerns over social protection, employment rights, pay and working conditions. Governments rarely engage in the discussion, possibly due to the absence of any universal legal framework for many of the new forms of work (Eurofound, 2015). That said, more flexible work forms have led to increasing employment rates in Europe with the 2016 figure exceeding 71%; the highest ever recorded. This increase has largely been fuelled by increasing participation by women, suggesting that more flexible work forms do appear to provide opportunities for some who would not be able, or willing, to take up a standard job.

Recently, new employment practices have emerged, although their penetration differs markedly across Members. Some, such as employee and job sharing, and interim management posts, do offer enhanced flexibility alongside job security. Conversely, casual work, including zero-hours contracts, impose job insecurity, a lack of social protection and low incomes for those in such positions. Even

mobile work, made possible by advances in technology risks the danger of social isolation and a blurring of the work-life distinction. For the future, it is important that these non-traditional jobs do not simply offer employers flexibility without consideration of the security and other benefit risks that might be borne by workers. With more favourable employment conditions flexible work may bring about the hoped for increases in productivity.

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Table 1: Flexicurity in the EU 2000-2015

Country	TEMP	SELF	UFW	LLL	ALMP	PLMP	Poverty	Trust	EREP	CON	BAR
Austria	8.75	12.56	1.69	11.79	0.51	1.97	13.54	35.1	26	58	2.0
Belgium	8.50	15.38	1.51	7.03	0.54	2.81	14.68	31.6	54	52	1.0
Bulgaria	5.26	13.55	1.37	1.35	0.26	0.62	19.73	22.4	26	46	2.0
Cyprus	13.91	21.07	2.29	5.69	0.17	0.86	15.37	9.2	33	47	2.0
Czech Rep.	8.19	19.12	0.74	7.28	0.14	0.51	9.29	27.3	12	48	2.1
Denmark	9.02	8.78	0.51	27.15	1.35	3.49	11.88	71.3	80	69	2.0
Estonia	2.97	8.96	0.31	8.46	0.09	0.55	18.61	28.1	37	66	3.0
Finland	16.11	13.85	0.42	21.97	0.75	2.56	12.38	60.6	70	50	1.3
France	14.85	11.48	0.82	6.07	0.74	2.40	13.40	24.3	55	43	2.0
Germany	13.55	11.44	0.75	7.11	0.67	2.46	14.33	38.8	22	45	2.0
Greece	11.80	46.63	9.57	2.27	0.16	0.66	20.80	22.5	14	46	1.4
Hungary	8.43	13.89	0.50	3.24	0.40	0.95	15.15	21.8	16	46	3.0
Ireland	7.21	18.48	0.88	6.76	0.60	2.47	17.44	37.5	28	49	1.8
Italy	12.24	30.71	2.94	5.69	0.44	1.53	19.07	31.7	27	24	2.0
Latvia	6.38	11.14	2.30	6.71	0.19	0.63	21.22	21.3	9	21	3.0
Lithuania	4.13	14.96	2.59	4.63	0.18	0.48	19.40	27.9	57	30	3.0
Luxembourg	6.15	8.20	0.43	9.64	0.38	1.08	13.15	28.0	57	32	2.0
Malta	5.19	15.41	6.58	5.56	0.06	0.50	15.15	21.2	14	48	3.0
Netherlands	16.97	14.33	0.64	16.38	0.76	2.65	10.76	62.3	55	53	1.8
Poland	23.28	25.54	5.29	4.65	0.36	0.96	17.47	21.2	24	30	3.0
Portugal	21.17	23.63	1.35	5.62	0.48	1.83	19.02	14.8	8	19	2.0
Romania	1.74	28.02	19.25	1.36	0.06	0.43	21.48	11.2	52	40	2.1
Slovakia	5.76	14.85	0.12	3.99	0.17	0.68	12.10	14.3	38	52	2.1
Slovenia	16.27	12.53	4.36	13.62	0.22	0.88	12.28	21.7	39	64	1.2
Spain	28.76	19.94	1.39	8.59	0.59	2.90	20.21	31.8	57	40	1.2
Sweden	15.93	10.45	0.23	21.70	0.95	2.05	12.31	66.4	54	79	2.0
UK	5.91	14.53	0.30	21.45	0.05	0.58	17.66	34.8	16	43	3.0

Note: Data from Eurostat (<http://ec.europa.eu/eurostat/data/database>). *ALMP* supplemented from OECD (<http://stats.oecd.org/>). *TRUST* from the European Values Survey (www.europeanvaluesstudy.eu/) and the World Values Survey (www.worldvaluessurvey.org/). *EREP* and *CON* from the 2014 European Company Survey (<https://www.eurofound.europa.eu/data/european-company-survey>) *BAR* from <https://www.eurofound.europa.eu/observatories/eurwork/collective-wage-bargaining/context>.

Table 2: IV Growth regression results, EU-27

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<i>Long-run</i>	OLS	IV	IV	IV	IV	IV	IV
<i>lnINV</i>	0.0935*** (9.85)	0.0802*** (6.77)	0.0660*** (7.14)	0.0690*** (7.66)	0.0674*** (7.73)	0.0655*** (7.12)	0.0654*** (8.00)
<i>lnHC</i>	0.0355*** (6.25)	0.0245** (2.36)	0.04114*** (3.52)	0.0530*** (5.63)	0.0556*** (9.90)	0.0471*** (4.37)	0.0377** (2.55)
<i>ln(n+g+d)</i>	-0.1589*** (5.62)	-0.1536*** (3.92)	-0.1079*** (3.46)	-0.1062*** (3.29)	-0.1229*** (3.41)	-0.0970*** (3.05)	-0.1217*** (4.25)
<i>Error correction lny_{t-1}</i>	-0.0981*** (9.96)	-0.0834*** (3.94)	-0.1448*** (7.31)	-0.1497*** (8.15)	-0.1601*** (8.15)	-0.1623*** (7.37)	-0.1384*** (7.13)
<i>Flex1</i>			0.0011 (1.15)	-0.0050* (1.94)	-0.0192*** (3.48)	-0.0138*** (2.70)	-0.0030* (1.92)
<i>Flex2</i>			-0.0160*** (5.73)	-0.0084 (1.22)	-0.0216** (3.04)	-0.0229** (4.64)	-0.0261** (5.35)
<i>Flex1*EREP</i>				0.0002** (2.19)			
<i>Flex2*EREP</i>				-0.0002 (1.55)			
<i>Flex1*CON</i>					0.0004*** (3.45)		
<i>Flex2*CON</i>					0.0001 (0.47)		
<i>Flex1*BAR</i>						0.0061*** (3.74)	
<i>Flex2*BAR</i>						0.002 (1.28)	
<i>Flex1*Trust</i>							0.0002*** (4.38)
<i>Flex2*Trust</i>							0.0004*** (4.43)
<i>Constant</i>	0.1602** (2.16)	0.0919 (0.31)	0.8465*** (4.94)	0.8495*** (5.03)	0.9023*** (5.15)	1.0420*** (4.99)	0.7494*** (4.86)
<i>R² (N)</i>							
<i>Pesaran's test (Corr(μ_i))</i>	0.75 (401)	0.79 (322)	0.82 (260)	0.82 (260)	0.83 (260)	0.83 (260)	0.83 (260)
<i>AIC</i>	-1.63 (0.24)	-1.96 (0.26)	-2.23 (0.32)	-2.24 (0.32)	-2.25 (0.32)	-2.16 (0.31)	-2.30 (0.32)
	-1891.19	-1535.06	-1252.86	-1249.82	-1252.01	-1253.17	-1254.05

Notes: *t*-statistics in parentheses based on Driscoll-Kraay standard errors. ***, ** and * represent 1%, 5% and 10% significance levels respectively. Fixed effects and time dummies are included but not reported.

Appendix Table A.1 Variable	Mean	Minimum	Maximum	Standard deviation
GDP per capita growth $\ln\Delta y_{it}$	0.02	-0.08	0.07	0.02
Lagged GDP per capita y_{-1} (Constant Euro at ppp)	23,084	4,700	73,100	10,610
<i>INV</i> Investment as % GDP	22.4	11.5	38.4	4.0
<i>TERT</i> % of population with tertiary education, ISCED 5,6, 7 & 8	21.7	4.9	39.6	7.6
<i>TEMP</i> Temporary employees 15-64/ total employees 15-64	0.11	0.01	0.34	0.07
<i>SELF</i> Self-employed 15-64/ total employees 15-64	0.17	0.07	0.53	0.08
<i>UFW</i> Unpaid family workers 15-64/total employees 15-64	0.03	0.0006	0.33	0.04
<i>LLL</i> % of population 25-64 engaged in LLL	9.49	0.90	32.60	7.28
<i>ALMP</i> Active labour market policy expenditure as % of GDP	0.48	0.02	1.85	0.42
<i>PLMP</i> Passive labour market policy expenditure as % of GDP	1.58	0.15	4.26	1.02
<i>POVERTY</i> At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers)	15.87	8.0	26.4	3.79
<i>EREP</i> % of companies with employee representation	36.3	8	80	19.84
<i>CON</i> % of companies consulting employees before introducing restructuring measures	45.93	19	79	14.00
<i>BAR</i> De-centralisation of wage bargaining	2.08	1	3	0.69
<i>TRUST</i> % responding that people could be trusted	31.06	7.1	76.0	16.41

Note: Data sources as for Table 1.