Economic Growth and Unemployment: a bibliometric analysis approach

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Abstract: The relationship between economic growth and unemployment could be considered a "puzzle" in economics. Many contributions have been made in the last decades, however, researchers still struggle to find a consensus. Persistently high long-run unemployment rates plague many countries, regardless of their economic and social development level. Thus, a better understanding of this relationship could help overcome labour market issues, amongst others. This dissertation provides an analysis and a categorization of the contributions to this topic since the beginning of the 21st century to assess the state of the art. Using a quantitative approach, a bibliometric analysis is developed to identify the main patterns of the research line regarding this topic. We divided our analysis into two distinct periods: 2003-2012 and 2013-2021. We found that the related literature grew greatly in the second period. Articles where the growth-unemployment link is triggered by a policymaker's decision are the most frequent. For the first period of analysis, there was a relative predominance of "formal" methodology. For the 2013-2021 period, we noticed a predominance of the "empirical" methodology, whereas the "formal" methodology lost significance. We also performed a quality of research analysis and found that articles related to the role of the underground economy presented a low average *SCImago* Journal Rank. Instead, articles related to the role of labour markets institutions and the bargaining structure presented the highest score. Finally, we explored the main contributions for the period 2013-2021 and found an increase of new effects such as "asset bubble effect", "age and gender effect", "skill composition effect", "complementary effect", "unionization effect", "factor-biased technological change effect", "compensatory effect", and "tax evasion effect".

Resumo: A relação entre crescimento económico e desemprego pode ser considerada um "puzzle" da ciência económica. Muitas contribuições foram feitas nas últimas décadas, contudo, ainda não existe consenso entre os investigadores. O fenómeno de elevadas e persistentes taxas de desemprego de longo prazo assola muitos países independentemente do seu nível de desenvolvimento socioeconómico. Desta forma, um melhor entendimento desta relação pode contribuir para solucionar problemas relacionados com o mercado de trabalho, entre outros. Esta dissertação propõe uma análise e categorização dos principais contributos desde o início do século XXI, de forma a avaliar o estado da arte. Recorrendo a uma abordagem quantitativa, desenvolvemos uma análise bibliométrica de modo a identificar as principais linhas de investigação relacionadas com este tema. A análise foi dividida em dois períodos distintos: 2003-2012 e 2013-2021. Os resultados revelam que, no segundo período, a literatura cresceu significativamente. Artigos cuja relação é despoletada por ações de decisores de política são os mais frequentes. Relativamente ao primeiro período, observa-se uma dominância relativa de metodologias "formais". Quanto ao período 2013-2021, observa-se uma predominância de metodologias "empíricas", tendo as "formais" perdido importância relativa. Foi realizada uma análise da qualidade da investigação tendo-se achado que artigos relacionados com o papel da economia subterrânea apresentam um baixo *SCImago* Journal Rank médio. Por sua vez, artigos relacionados com o papel das instituições do mercado de trabalho e a estrutural negocial apresentam a pontuação mais elevada. Por fim, as principais contribuições foram analisadas para o período 2013-2021 tendo-se observado um aumento de novos efeitos como "asset bubble effect", "age and gender effects", "skill composition effect", "complementary effect", "unionization effect", "factor-biased technological change effect", "compensatory effect" e "tax evasion effect".

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1. Introduction

How does a country's economic growth relate to its unemployment rate? Many contributions have been made in this field of research over the past decades. However, economists and researchers still struggle to find a consensus on the relation between these two variables.

In the long run, high unemployment rates plague many economies, especially European countries (Srinivasan & Mitra, 2014). Thus, understanding the relation between these two variables seems crucial, as it could be a way to solve this core issue that is afflicting the European labour market. Since the first oil crisis in 1973, after the golden years associated with the post-war, several advanced economies have been facing a declining economic growth rate and a rising unemployment rate. Since the early 70s, the Gross Domestic Product (GDP) growth in the United States and European countries have followed a similar decreasing pattern; however, the rise in unemployment has been more pronounced in the latter. This long-term unemployment seems to be common among European economies (Ljungqvist & Sargent, 1998). Also, since the recession was not relatively deeper in European countries, it cannot be the only cause for their prevailing high natural unemployment rate. Therefore, different conditions underlying the European labour market institutions are a much more plausible explanation for this phenomenon. This supports the idea that the relationship between economic growth and unemployment does not have to be the same in all countries (Haruyama & Leith, 2010).

Blanchard and Summers (1986) explored the macroeconomic idea of hysteresis, which translates into a substantial persistence of unemployment and the long-drawn effects of shocks on unemployment. In the presence of hysteresis and labour market restrictions, cyclical fluctuations have a permanent effect on unemployment. According to Nickell (1997), the two main characteristics of the European labour market are its rigidity and inflexibility, which leads to high unemployment. Opposingly, the North American labour market is dynamic and flexible, resulting in a low unemployment rate.

Another common approach in the literature to study this relationship is through the widely known Okun's Law and the calculation of its coefficients. Okun's Law may be referred to as the relationship between unemployment and the cyclical component of GDP. Likewise, Okun's coefficients measure how responsive the unemployment rate is to changes

in the output gap (Dixon et al., 2017). Hence, Okun's coefficients between countries suggest that the relationship between economic growth and unemployment varies among countries and depends on the underlying characteristics of their labour market institutions, demographic composition, and many other aspects. Dixon et al. (2017) focused their analysis on 20 OECD countries from 1985 to 2013. They show that there is a somewhat clear negative relationship between growth and unemployment. However, the impacts of 2008's financial crisis differ greatly between countries. For example, the unemployment rate increase in Australia was relatively small when compared to Portugal, Ireland, Spain, and the United States, where the increase was relatively large.

The first objective of this research is to assess the state of the art since the publication of Aricó (2003)'s seminal survey. At the time, the author presented the most relevant literature concerning the persistence of unemployment in a growing economy, until the paper's publication, and offered a first classification of the contributions. Neto and Silva (2013) did a bibliometric analysis taking into consideration 84 articles for the period between 2000 and 2012.[1] They found a significant increase of new effects regarding the relationship between growth and unemployment in the literature apart from those identified by Aricó (2003). Defining a new theoretical framework to accommodate these new effects and empirical findings was encouraged by the authors. This research aims to update the main contributions to the literature since 2003 and identify the most recent trends regarding this topic by analysing almost a thousand articles.

Section 2 presents a literature review of the most important early attempts to study the existence of unemployment in a growing economy, passing through some recent contributions in the literature. The early contributions are mainly theoretical, beginning with the ground-breaking work of Pissarides (1990). More recent papers, despite introducing theoretical innovations, also present empirical testing of their findings. Section 3 provides all the methodological considerations regarding this dissertation. In section 4 we present the main findings of the bibliometric exercise using the *Scopus* database. Section 5 presents a descriptive analysis of the most recent and relevant contributions to the growth-unemployment nexus topic of research. Finally, section 6 provides some concluding remarks and presents the main limitations of this work.

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[1] Neto and Silva (2013) analysed a total of 224 articles but only 84 were considered eligible for the econometric exercise.

2.   Literature review

According to Kuznets (1973), economic growth can be defined as a long-term rise in a country's capacity to supply increasingly diverse economic goods to its population, being this growing capacity based on technological adjustments that it demands. The most common index used to measure this phenomenon is the GDP, more precisely, the annual growth rate of the real GDP. In turn, the unemployment rate is usually measured by the share of unemployed individuals in the labour force.

According to Aricó (2003), the research on the topic of economic growth and unemployment began in the middle of the XX century with the contributions of Harrod (1939) and Domar (1947). Despite their importance, these were isolated contributions since they did not initiate a relevant debate in the literature. The emergence of Solow's (1956) model triggered the neoclassical economic growth theory, which mostly neglected the labour market and deviated economists' attention from the topic of the relationship between growth and unemployment. Almost four decades later, Pissarides (1990) introduced the first major innovation to this field with the formulation of an unemployment theory in steady state (Aricó, 2003).

The job-search model developed by Pissarides (1990) combines a standard matching function with a neoclassical growth model and formally establishes the first link between economic growth and unemployment considering profits and hiring costs. The author states that, in a non-frictionless labour market, a higher growth rate translates into a lower natural rate of employment. In steady state, both profits and hiring costs grow at an equal rate. When firms face higher growth rates, they will decide to hire more personnel in the present, translating into more job vacancies, because they expect hiring costs to be greater in the future. Since higher growth rates also increase future profits, firms obtain an increasing stream of earnings. This job creation process leading to lower unemployment as a result of an increase in the growth rate was identified as the "capitalisation effect" by Aghion and Howitt (1994). These authors also constructed a search model of equilibrium unemployment giving special attention to the re-allocative aspect of economic growth. Thereby, in their model, it is the labour-reallocation process within firms that generates unemployment. The capitalisation effect is also reinterpreted in the sense that it also affects the net discount rate (the difference between the interest rate and the growth rate). Hence, a higher growth rate raises the investment return rate, encouraging firms to enter the market, which reduces

unemployment by increasing the number of job vacancies. However, Aghion and Howitt (1994) identify another effect called the "creative destruction effect". As the growth rate increases, the duration of the job match decreases, raising the equilibrium unemployment level. This can occur directly via the increase of the job-destruction rate, which is endogenized in their paper unlike Pissarides (1990)'s model, or indirectly via its negative effects on firms' incentives to open new vacancies and thus on the job-finding rate.

In their framework, firms are research facilities where new knowledge and new ideas are generated. In order to set up a new research centre and thus generate a stream of innovations, each firm must support a sunk cost. However, these new ideas must be embodied into new machines, which represents a fixed cost that firms must pay to implement the new innovation. Moreover, firms must open a new "production unit" to produce a final good, which requires three production components: a machine embodied with the new technology, a worker that matches the machine and a fixed amount of human capital, whose price in terms of final consumption increases at the average growth rate of the economy. Given that the production unit faces increasing fixed costs, a firm that does not innovative will not be able to cover its fixed costs and, at some point, will be forced to close, driving the worker to unemployment.

Therefore, when the growth rate increases, two competing effects emerge. On one hand, it will trigger the capitalisation effect by decreasing the "effective discount rate" which increases the firm's incentives to enter the market, creating more job vacancies and thus, reducing the unemployment rate. On the other hand, it will trigger the direct and indirect creative destruction effect. The first results from an increase in the price of human capital, which reduces production units' lifetime thus increasing the job-destruction rate. The second emerges from the decrease in the firm's profits, discouraging the opening of a new production unit (and a new vacancy) since an increase in the growth rate reduces the lifetime of production units and increases the price of human capital. This discourages firms to enter the market thus increasing the unemployment rate.

The two previous models considered growth as an exogenous variable. Moreover, the causality ran in a single direction, from growth to unemployment. Bean and Pissarides (1993)'s framework takes both growth and unemployment as endogenous variables. Therefore, the causality between the two variables can be studied in both directions. They built an overlapping generations endogenous growth model and introduced matching

frictions in the labour market to analyse the effects of the total amount of savings, through the channel of the propensity to save, on unemployment or growth. Bean and Pissarides (1993) named this mechanism the "pool of savings effect". Although this has been an important addition to the discussion of this topic, the authors neglected the previous effects mentioned by Pissarides (1990) and Aghion and Howitt (1994). In their framework, an increase in unemployment leads to a decrease in the "pool of savings" (total amount of savings in the economy) that is available for investment, therefore decreasing the growth rate.

Acemoglu's (1997) relevant contribution to the discussion of the growth-unemployment nexus relates to the consideration of the labour supply problem, which was not addressed until then, introducing the "coordination failure effect". By introducing the possibility of two competing technologies (the existing and the new technology) in a standard search and matching model, a potential heterogeneity emerges from the interaction of skilled and unskilled workers. The only way for an unskilled worker to become skilled is to get hired and trained by a firm since the model does not include an educational system nor a learning-by-doing mechanism. For that reason, the adoption of a new technology translates into skills costs for the firm because the workers must learn how to handle it. In this framework, the relationship between the unemployment rate, entrepreneur's expectations and labour productivity dictates the relationship between economic growth and unemployment. When the unemployment rate is high, entrepreneurs have higher expectations of hiring unskilled workers, leading to a lower predisposition to innovate and hire. This occurs because firms incorporate the cost associated with the higher probability of having to train the worker in their profit maximization problem. As a result, the economy ends up with a lower growth rate and an even higher unemployment rate, meaning that expectations are self-fulfilled.

Acemoglu (1997) presents two distinct equilibria depending on the entrepreneur's expectations. The first corresponds to the case presented above where all firms decide not to innovate, which leads to a higher unemployment rate. In the second one, firms adopt the new technology and bring the economy to a lower unemployment rate. To balance the "coordination failure effect" the author introduces a "social planner" who steers firms' incentives and benefits the economy, resulting in an efficient allocation of resources.

More recently, Crowley and Hudgins (2021) integrate Okun's law relationship into a large-scale wavelet-based control model to evaluate simulated optimal fiscal and monetary

policies for the United States. The paper tries to explain how policy impacts vary depending on which primary macroeconomic target (unemployment, output growth, and inflation) policymakers emphasise. The purpose of the simulations is to analyse the relative changes in the optimal forecast trajectories that occur when fiscal and monetary policies emphasise unemployment and compare it to the cases where policymakers prioritise economic growth and inflation targeting. To achieve that, first, they simulate the wavelet-based control model including the unemployment gap, the output gap, and the inflation gap. Then, unemployment is removed, and the model is simulated once more. This procedure demonstrates the differences in fiscal and monetary policies that emerge from the inclusion of unemployment in the model. The results from the simulations suggest, on one hand, that fiscal policy is the most aggressive (more cumulative government spending) when economic growth is taken as the policymaker's priority, revealing their willingness to incur more debt in such a case. On the other hand, when the inflation target is emphasised, monetary policy seems to be relatively more aggressive (lower cumulative aggregate interest rate). However, introducing Okun's law in the model leads to less expansionary optimal fiscal and monetary policy and makes it more sensitive to policy changes. When the unemployment rate is near or below its natural rate and assuming that a low unemployment rate results from labour market tightness, additional fiscal policy may lead to lesser gains in economic growth when compared to a model that does not consider unemployment, because firms are already producing near current capacity. As the authors point out, this reveals some fragilities of the policy models that do not consider the labour market, leading to overly expansionary policymaker recommendations. However, one shortcoming of the model presented in this paper is the lack of explicit modelling of labour productivity as it affects the response of unemployment on output asymmetrically across the business cycle (Crowley and Hudgins, 2021).

Chu et al. (2021) build upon the Schumpeterian growth theory framework to explore the long-run relationship between unemployment and inflation, through the creative destruction effect. It combines a monetary Schumpeterian growth model with matchmaking frictions and cash-in-advance (CIA) constraints on research and development (R&D) and consumption. The main novelty is the introduction of money demand via the CIA constraints and equilibrium unemployment driven by labour market frictions in a standard Schumpeterian growth model.

Following Chu et al. (2021), two propositions considering the effects of inflation on unemployment and economic growth are founded. Under the CIA constraint on R&D, higher inflation has a positive effect on unemployment (decreases unemployment) but negative effects on R&D, the growth rate of technology in the short run, and the level of technology in the long run. The explanation behind this relies on the fact that higher inflation leads to an increase in the opportunity cost of cash holdings, increasing the cost of R&D investment via the constraint. Consequently, R&D decreases causing a lower growth rate of technology in the short run and a lower level of technology in the long run. Moreover, by decreasing the demand for labour, inflation increases long-run unemployment via the CIA constraint on R&D.

Addressing now the CIA constraint on consumption, higher inflation increases unemployment and decreases R&D investment, the growth rate of technology in the short run, and the level of technology in the long run. As mentioned above, higher inflation leads to an increase in the opportunity cost of cash holdings, which in turn increases the cost of consumption relative to leisure. Hence, the labour supply is reduced due to the household decision to consume more leisure, leading to less R&D labour and reducing the number of workers searching for employment. Consequently, the labour market becomes tighter, reducing unemployment. Additionally, since economic growth and innovation are measured by the level of technology in the long run and by the growth of technology in the short run, respectively, higher inflation hurts both variables via CIA constraints on R&D and consumption.

In the following section, we present the methodological considerations regarding the bibliometric exercise based on *Scopus* database. We aim to identify the state of the art concerning the relevant literature that emerged after Aricó (2003)'s survey which identified the main early contributions. Since the growth-unemployment related literature grew considerably in the last two decades, an analysis of the main patterns of research and an update of the main contributions seems relevant.

3. Methodology

A bibliometric analysis was conducted to shed light on the literature concerning the relationship between economic growth and unemployment. To perform this bibliometric exercise, the *Scopus* database was used to collect the data on published articles. When it comes to evaluating research impact in social sciences, this database seems to be the preferred choice among other alternative databases such as *World of Science*, *Google Scholar*, and *CSA Illumina,* given its overall advantages in terms of functionality, quality of record processing and depth of coverage (Norris & Oppenheim, 2007).

To perform this analysis the keywords used were "economic growth" and "unemployment" in the fields "keywords", "article title" and "abstract", on the 11th of November 2021. The subject areas were limited to "Economics, Econometrics and Finance" and "Business, Management and Accounting", and the document type was set only to "Articles", for the period between 2003 to the present day of the search. This resulted in 913 articles that were furtherly downloaded.

During the first stage of screening, where the articles' abstracts were reviewed, more than 400 articles were eliminated because they did not focus on the "economic growth-unemployment" relationship, either directly or indirectly. Other articles required a full-text analysis to assess their relevance to this topic. Although being classified as relevant in the first screening, 8 articles had to be eliminated from this analysis because access was not granted by the corresponding author upon request.[2]

The remaining articles were then categorized in terms of methodology and mechanism. Following Nelson and Winter (1982) and Nagarajan et al. (2017), six different categories were considered: "formal", "empirical", "appreciative", "formal + empirical", "appreciative + empirical" and "survey". The papers categorized as "formal" make use of mathematical models or are based on an analytical or logical framework. Moreover, if the articles also present some data testing within the constructed model, they were characterized as "formal + empirical". Publications that solely or substantially rely on econometric or statistical testing of data were classified as "empirical". If the article presents an argumentative analysis, critiques, judgments, appreciations or appraisals, absent of any mathematical modelling, they were classified as "appreciative". Likewise, an article containing an appreciation or a

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[2] After the formal full-text request was made, we gave the author 15 working days to reply.

comment plus data testing was classified as "appreciative + empirical". Finally, a "survey" comprises articles that undergo through the documentation of a comprehensive review of both published and unpublished work from secondary sources data.

To categorise the articles regarding the type of mechanism used to explain the nexus between economic growth and unemployment, an approach similar to the working paper by Neto and Silva (2013) was used, which to the best of our knowledge, is the only bibliometric exercise that addresses this topic.

Therefore, articles that explicitly described one of the four main effects found by Aricó (2003), or the Okun's Law, were comprised in a category labelled as "Initial effects".[3] Thus, all the other effects found in the literature were categorised as "New effects". Although there was a reasonable heterogeneity of effects in the literature, there also were many articles that presented similar effects allowing the formation of nine subcategories: "policy maker effects", "labour market institutions and bargaining structure", "entrepreneurial activity effects", "structure change, productivity growth, education and training", "technological skills and agglomeration economies", "financial market effects", "migration and brain drain", "inequality and income distribution" and "underground economy effects".

If an article presents an effect that is caused by a policymaker's decision of any type it was subcategorised as belonging to "policy maker effects". "Labour market institutions and bargaining structure" comprises articles that focus on the effects caused by the institutions ruling the labour market plus articles related to the role of unions and the collective bargaining structure. When the link is generated by the intensity of entrepreneurship or self-employment (usually used as a proxy), the article is identified as treating "entrepreneurial activity effects". "Structure change, productivity growth, education and training" includes articles that the main effect described is related to innovation processes. When the link between the labour market and the growth mechanism is triggered by an efficiency gain, the article fits the "technological skills and agglomeration economies" subcategory. "Financial markets and banking sector effects" includes articles in which the depicted link is related to financial inclusion and the role of financial markets. "Migration and brain drain" when the effect is connected to the phenomenon of migration of workers in general, including articles that emphasize the migration of highly skilled workers. If the main effect is triggered by an

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[3] The four main effects described by Aricó (2003): "Capitalisation effect", "Creative destruction effect", "Pool of savings effect" and "Coordination failure effect"

imbalance related to income distribution or, in a broader view, by overall inequality, the article belongs to the "inequality and income distribution" subcategory. "Underground economy effects" if the articles focus on the role of the informal sector. Finally, a residual subcategory ("other effects") comprises all articles that although relevant, focus on links that could not fit any of the other subcategories.

In the end, 17 articles were further eliminated from this analysis because they did not formally establish any kind of transmission mechanism between economic growth and unemployment, leaving our database with 356 articles (see Annex A).

To provide a comprehensive bibliographic overview of the literature, we used the VOSviewer software. This software allows the construction of several maps based on network data which becomes relevant when dealing with a large amount of information, providing a visual image of the existing bibliometric networks. Using VOSviewer, analyses such as the most frequently occurring keywords, co-authorships networks, and citations and co-citations study will be carried out in the forthcoming section.

Finally, a journal ranking analysis will be performed using the *SCImago* journal ranking 2021 database providing information about the average ranking of each group of effects found in the literature.

The following section presents the main findings of this bibliometric exercise concerning the evolution of the literature related to the relationship between economic growth and unemployment.

4. Main findings

4.1 General evolution of articles on economic growth and unemployment

The figure below (figure 1) compares the weight of the "Initial effects" category against the "New effects", considering all the relevant literature. The former category was constructed with the intent to comprise the main links described in Aricó (2003)'s paper (Creative destruction effect, capitalisation effect, pool of savings effect and the coordination effect) and papers addressing the Okun's Law. However, after the article review process, it was found that the pool of savings effect and the coordination effect are not discussed in any of the 356 analysed articles.

Following Neto and Silva (2013), who found the same result for the period between 2000 and 2012, this finding suggests that over the last two decades these two effects have either lost their relevance, been merged, or reinterpreted into a new effect. Hence, the "Initial effects" category only includes papers related to the three-remaining links.[4]

The "New effects" category contains all the articles that discuss at least one effect that differs from those previously mentioned. This category accounts for 88% of the total gathered number of articles meaning that the economists have been accounting for a more diverse set of effects to unravel this puzzling relationship.

Figure 1: General distribution of growth-unemployment related articles by mechanism, 2003-2021
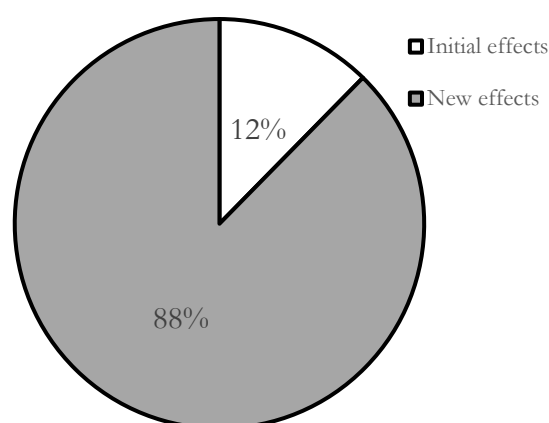
Source: own elaboration

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[4] The "Initial effects" contain only one article describing the capitalisation effect and four dealing with the creative destruction effect. Okun's Law leads the "Initial effects" category, with 40 related articles out of a total of 44.

Besides the manifoldness of new effects, the growth-unemployment research has been also growing in the last two decades, reaching its peak in 2020 with 39 published articles in that year. After 2012, the rate of related published articles averages almost 29 per year. Moreover, Figure 2 shows that the "Initial effects" category (44 articles) seems to be regaining some attention from economists largely due to the study of Okun's Law. Nonetheless, this is still a low number when compared to the "New effects" (312 articles).

Figure 2: Evolution of related articles (number) by mechanism, 2003-2021
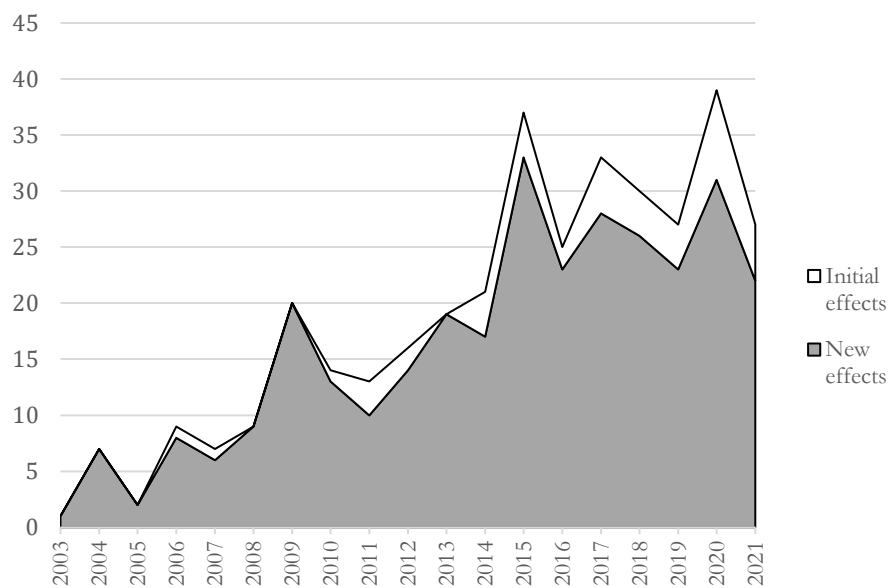
Source: own elaboration

After analysing the general evolution of articles on the growth-unemployment nexus by mechanism, Figure 3 shows the number of published articles by methodology, comparing the "New effects" and the "Initial effects".

Figure 3: General distribution of related articles (in number) by methodology, 2003-2021
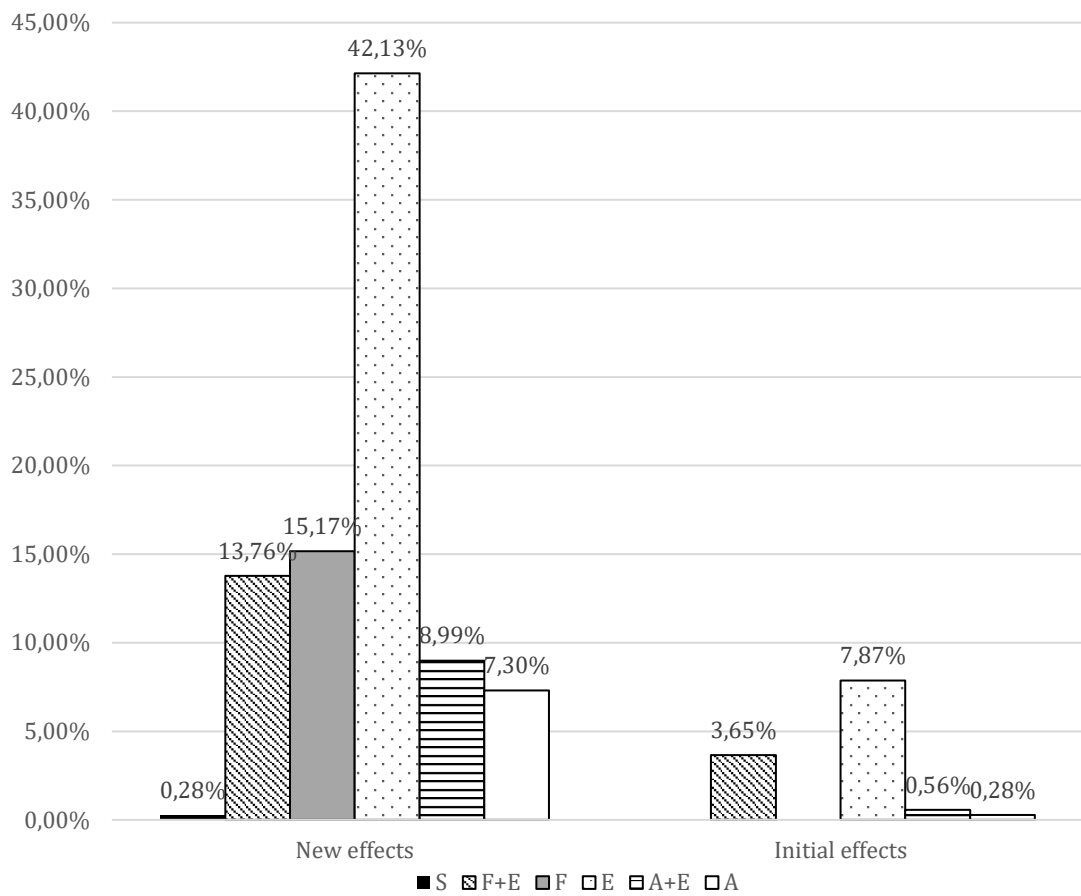
Source: own elaboration

Overall, the "Empirical" category accounts for almost half of the relevant papers in this research field. The "Formal + Empirical" category also plays an important role in the growth-unemployment nexus related literature, scoring second place in both "New effects" and "Initial effects" categories. Furthermore, while the "Formal" category represents approximately 15% of the papers regarding the "New effects", there is not a single "Initial effects" paper which solely relays on this method. With a weight of approximately 9,5% and 7,% respectively, the "Appreciative + Empirical" and the "Appreciative", do not play a significant role when compared to the last three categories. Finally, there only a single "Survey" article was found regarding the "New effects". Dutt (2017) proposes a survey on heterodox theories of economic growth and income distribution, and directly analyses the growth-unemployment link, providing important insights into this relationship.

4.2 General evolution of the new effects on the growth-unemployment literature

This subsection will look in detail at the "New effects" category. We divided the timeline into two parts to account for the more pronounced growth of related literature after 2012. This division is also related to the financial crisis of 2008 which severely hurt many economies. Hence, it is reasonable to assume that the growth-unemployment literature grew a few years after that event in order to understand the effects of the financial crisis on the nexus between the two variables (Dixon et al., 2017; Novák and Darmo, 2019). Therefore, the first period will cover all the articles that were published between 2003 and 2012 and the second period will cover 2013 to 2021.[5]

Figure 4 shows the main "New effects" subcategories for the first period of the analysis, containing 90 published papers. The findings suggest an obvious dominance of the effects triggered by a policy maker whereas the "financial markets and banking sector effects", "entrepreneurial activity effects", "technological skills and agglomeration economies", and the "migration and brain drain" subcategories do not seem to have significant relevance in the literature in that period. On the other hand, articles related to the role of labour market institutions and the innovation process play a key role in this research field. It is important to emphasise that the "underground economy effects" subcategory does not have any representation for this period.

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[5] Note that the gathering of the articles for the bibliometric exercise occurred on the 11th of November 2021, meaning that the analysis does only cover partly the year 2021. However, for practical purposes, it is said that the second period ranges from 2003 to 2021.

Figure 4: Distribution of articles regarding the "New effects" by subcategory, 2003-2012
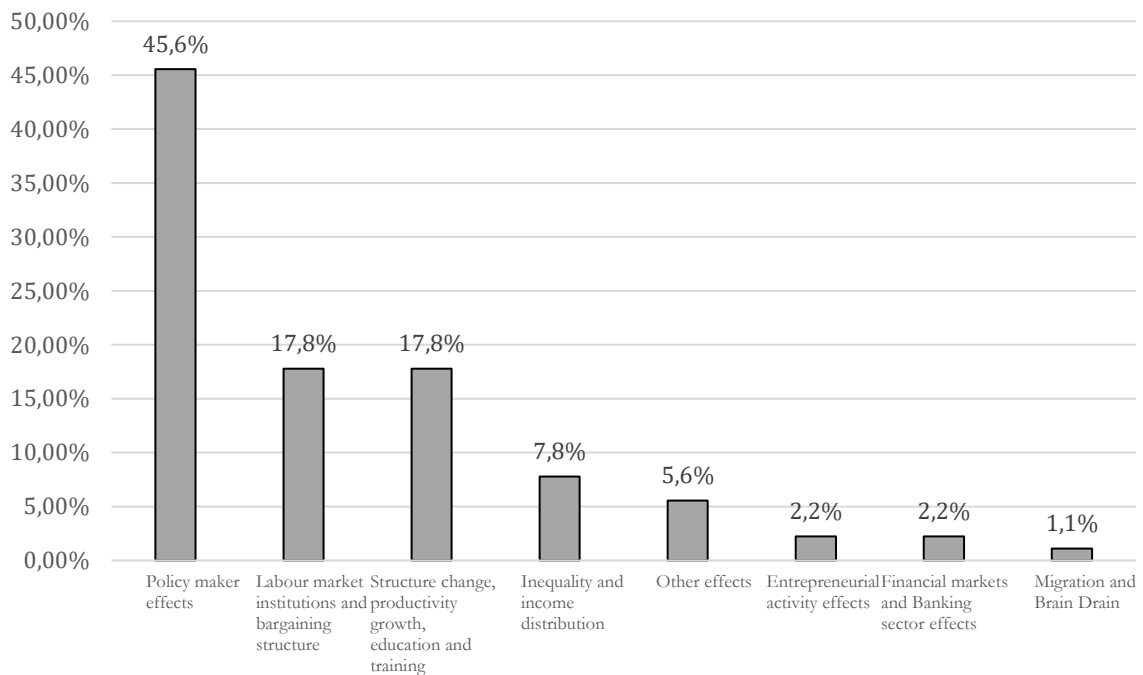
Source: own elaboration

Looking at the second period, the top two places remain unchanged when compared to the first period, with the "policy maker effects" subcategory assuming, once more, a key role. However, articles about the effects prompted by entrepreneurial activity seem to be gaining attention from economists, with 27 papers published on this matter over the considered period. While articles on inequality and income distribution have been losing relative importance, subcategories such as "migration and brain drain", "financial markets and banking sector effects", and "technological skills and agglomeration economies" have increased both their relative and absolute "weight" in the related literature. Lastly, articles concerning the role of the underground sector appear as a new line of research regarding the study of the growth-unemployment relationship. Although its representation is still very modest when compared to other subcategories, it is the most recent group of effects to be studied in the literature (see Figure 5).

Figure 5: Distribution of articles regarding the "New effects" by subcategory, 2013-2021
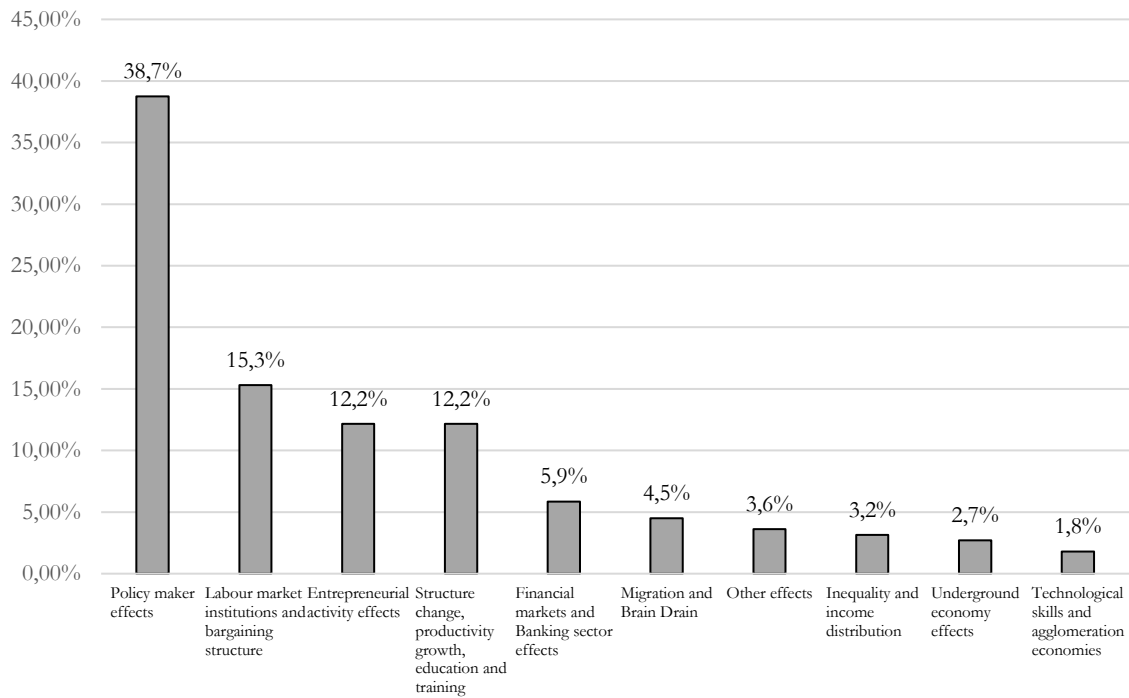
Considering the evolution pattern of the published articles regarding the method used, Figure 6 depicts a preponderance of the "formal" category before 2012. Afterwards, the "Empirical" category gains a substantial boost, well as the "formal + empirical" category, particularly after 2017. This could be seen as researchers acknowledging the need to complement the vast empirical research that emerged in the last decade with proper theoretical modelling.

Figure 6: Evolution of articles (in number) regarding the "New effects" by methodology, 2003-2021

Legend: ■ S ▨ F+E ▤ F ☐ E ⊟ A+E ☐ A
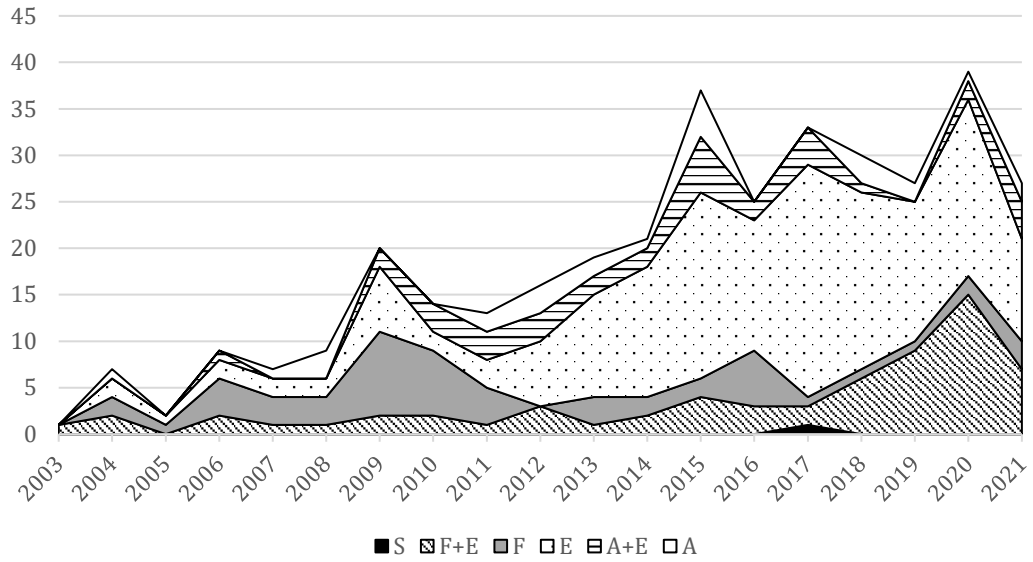
Source: own elaboration

In fact, for the period between 2003 and 2012, the "formal" category represented more than one-third of all related articles, followed by the "empirical" category with nearly 29%. Notwithstanding, the three remaining categories also play an important part in the related literature, highlighting the category "formal + empirical" with more than 15% (see Figure 7).

Figure 7: Distribution of articles (in number) regarding the "New effects" by methodology, 2003-2012

Category	Percentage
F	33,7%
E	28,6%
F+E	15,3%
A+E	12,2%
A	10,2%
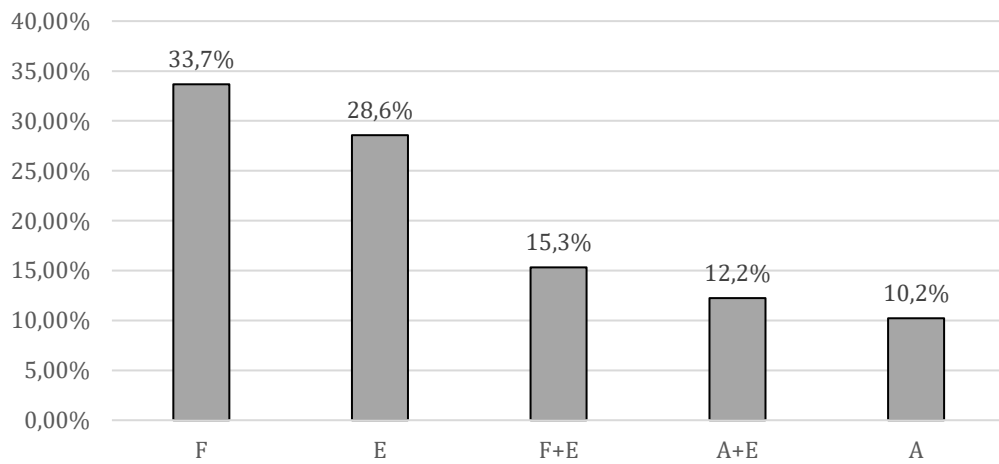
Source: own elaboration

Taking into consideration the 2013-2021 period, Figure 8 shows some interesting results regarding the "methodology" category. The "formal" category lost significance, with a weight of 8,1%. Moreover, the number of articles that opt for an argumentative approach or a combination between the latter method and empirical analysis also decreased when in comparing to the former period. However, the "empirical" category stands out, with more than half of the published papers choosing this methodological approach. This is an interesting result and could be interpreted as the need to test the newly available data on economic growth and unemployment for a larger variety of countries. Also, since the former period was characterised by a predominance of the theoretical approach, this seems like a way to bridge that gap in the literature. Finally, the "formal + empirical" category also plays an important role, coming in second place with one-fifth of the articles opting for this approach.

Figure 8: Distribution of articles (in number) regarding the "New effects" by methodology, 2013-2021

Source: own elaboration
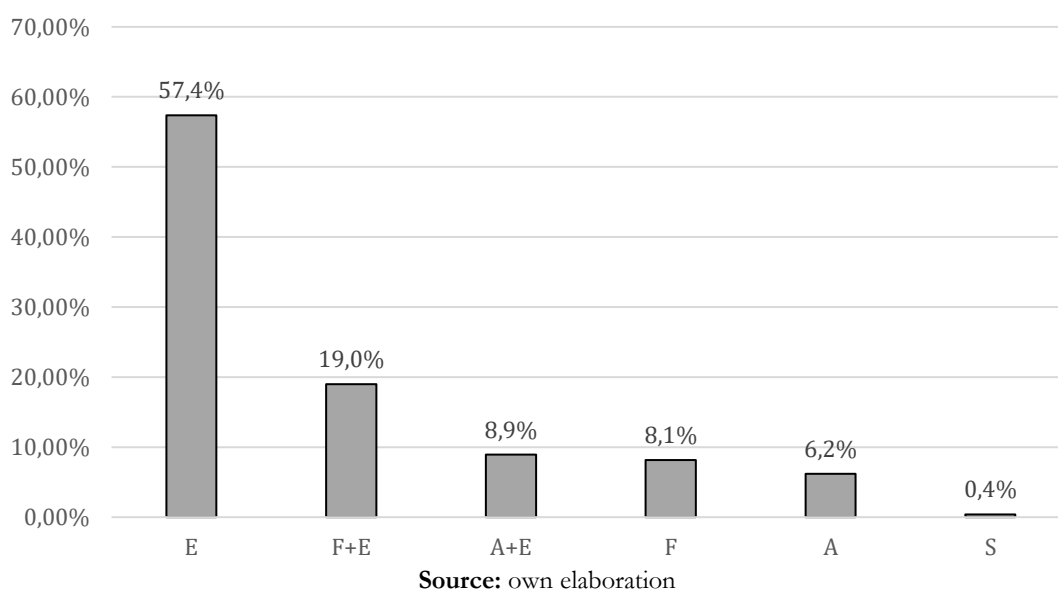
Lastly, Figure 9 depicts the results of combining both "mechanism" and "methodology" categories for each subcategory of the "New effects", for the whole period between 2003 and 2021. The main findings indicate a predominance of the "empirical" category in every single one of the "New effects" subcategories. Note that the above-mentioned is even true for the most recent subcategories such as the "underground economy effects", which may evidence a trend of the empirical approach in this line of research. Subcategories such as "inequality and income distribution" and "labour market institutions and bargaining

structure" also have a considerable number of articles undergoing a "formal" approach. Furthermore, the "formal + empirical" approach seems to play an important role in some subcategories like "entrepreneurial activity effects", "structure change, productivity growth, education and training", "technological skills and agglomeration economies and "migration and brain drain". Finally, as previous results may already have suggested, the "appreciative" and "appreciative + empirical" categories have a low representation in nearly every single one of the "New effects".[6]

Figure 9: Distribution of articles regarding the "New effects" by mechanism and methodology, 2003-2021
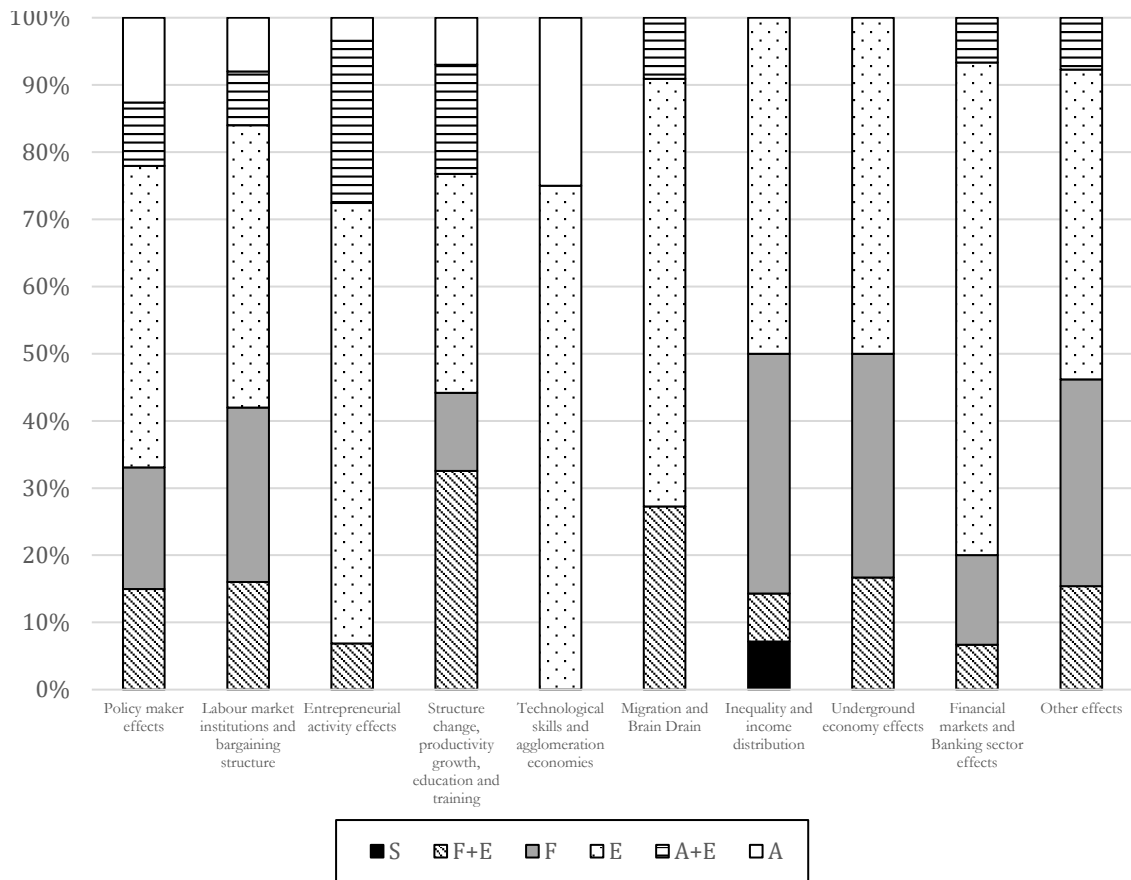
Source: own elaboration

4.3   Bibliographic analysis of the keywords, co-authorships networks, and citation and co-citation mapping

Figure 10 provides a map of the co-occurrence networks of keywords. The total number of articles that were selected in this bibliometric exercise (356 articles) consists of 1035 keywords. Restricting the minimum number of occurrences of a keyword to 4, VOSviewer recognises 79 keywords that meet this threshold. The network visualization option identifies 8 different clusters, each one with a specific colour, showing how keywords relate to each other. This map suggests that there is moderate heterogeneity in the growth-unemployment nexus literature, with authors choosing different approaches to address this topic.

Figure 10: Co-occurrences analysis of keywords (weight by number of occurrences) in the related literature, generated with VOSviewer (https://www.vosviewer.com/)

Source: own elaboration

Not surprisingly, "economic growth" and "unemployment" are the two keywords with the most occurrences, 176 and 185 respectively, followed by "employment" (33), "labour market" (31), and "entrepreneurship" (23) (see Table 1).

Table 1: Top 10 of the most frequently occurred keywords

Keywords	Occurences	Total link strength
Unemployment	185	557
Economic growth	176	541
Employment	33	121
Labor market	31	152
Entrepreneurship	23	52
Gross Domestic Product	21	94
Okun's Law	18	56
GDP	15	42
Inflation	15	48
Income distribution	14	54

Source: own elaboration

Table 2 presents the most cited authors and the number of published articles regarding the related literature. The citation count in table 2 accounts for the citations that authors have in papers belonging to our 356 articles domain. One of the aspects that immediately stands out is the small number of papers published by each of the authors. The great majority of them have only one published article when it comes to the growth-unemployment topic. In fact, only six authors have published more than two articles and they are not in the top 15.

Table 2: Top 15 of the most cited authors

Author	Number of Articles	Citations
Dosi, G.	1	289
Fabiolo, G.	1	289
Roventini, A.	1	289
Tregenna, F.	1	102
Cai, F.	1	100
Wang, M.	1	100
Himanshu	1	97
Stockhammer, E.	2	87
Onaran, Ö.	1	86
Kus, B.	1	77
Knight, J.	2	74
Kingdon, G.	1	74
Boubtane, E.	2	58
Coulibaly, D.	2	58
Rault, C.	2	58

Source: own elaboration

The following analysis will focus on the co-authorships network, which measures the intellectual collaboration between scholars (Donthu et al, 2020). By using VOSviewer, the 712 authors found in the relevant literature were narrowed down to 138 that met the following criteria: having at least one published article and at least 10 citations.[7] In this analysis, the size of the clusters in the map is weighted by the number of published articles that each group of authors has.

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[7] The reasoning behind the choice of the criteria is to ensure the visual "cleanliness" of the map, despite the minimum of 10 citations per author may also provide some information about the relevance of the latter in the literature.

Figure 11 presents the result. As the map indicates, there is little to no interaction between clusters of authors. In the related literature, it seems that authors often work in separate groups and do not "mix" with other groups of authors. However, in certain circumstances, they invite just one "outsider" to collaborate within the current group.

Figure 11: Co-authorship network (weight by number of articles), generated with VOSviewer (https://www.vosviewer.com/)
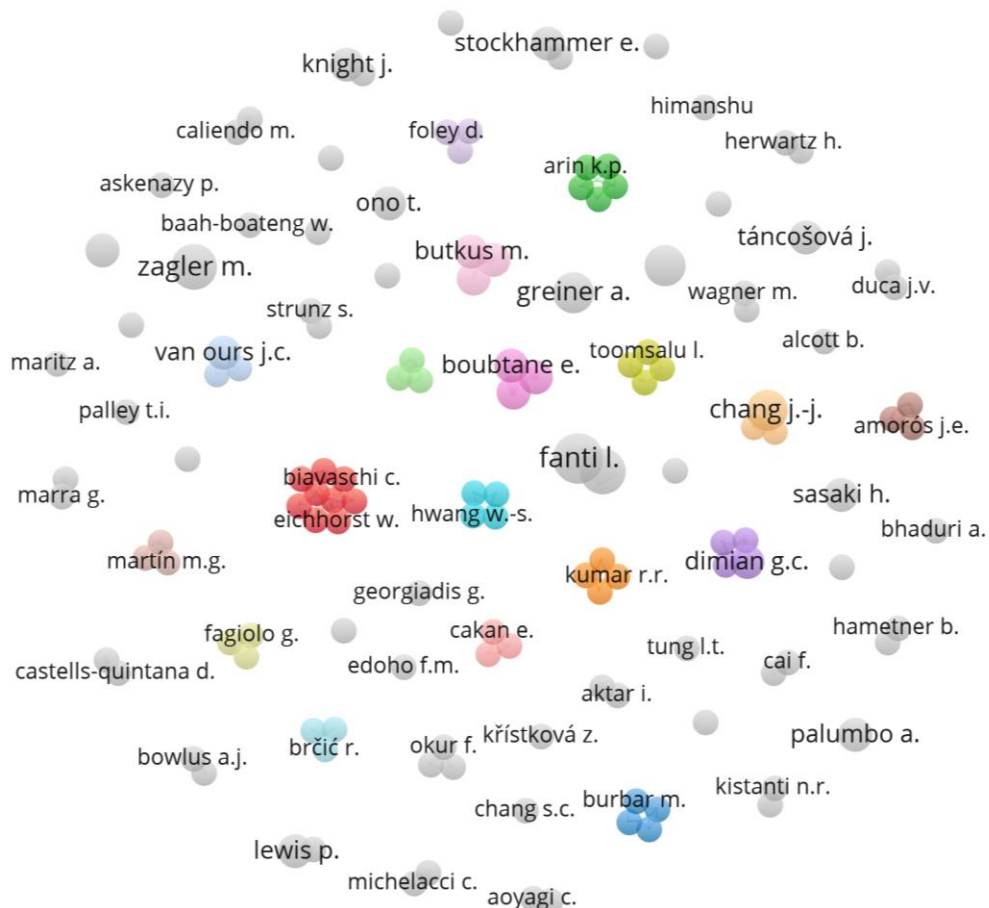
Source: own elaboration

Following Ortega (2014), the analysis of the co-authorship networks is the best way to assess the collaboration process in science. However, there is no consensus on the impacts of collaboration on research quality. The author found that in the Economics & Business research field, co-authorship networks are often sparse and tiny when compared to other disciplines such as Physics, Geosciences and Engineering. Economics & Business reveal a high Betweenness centrality degree, meaning that there is a central author that has control over his/her research colleagues, playing a significant role in their contributor's research

performance. These findings support our results depicted in Figure 11. Also, Ortega (2014) shows that authors from Economics & Business have a larger number of citations per document when compared to other disciplines. At the individual level, he found that citation per paper is negatively correlated with the clustering degree and positively correlated with the betweenness centrality. Therefore, authors belonging to sparse and thin networks, with isolated co-authors and with a high degree of control of their network, like researchers from the Economics & Business discipline, have a higher research impact (Ortega, 2014).

Another indicator of this low interaction between different authors is the citation network between authors. Once more, using *VOSviewer,* we found 33 authors and 6 clusters (in a total of 712) that are cited by other authors (see Figure 12).[8] This analysis provides information on how many times an author is cited by another author within the 712 authors' domain (local citations). Despite the low interaction shortcoming, the map still provides important information about how the authors may be influenced by others regarding the same topic of research. Figure 12 shows who are the most influential authors within the related literature.

The results obtained using *VOSviewer* reveal Juin-jen Chang as the author with more local citations within our related literature domain. At the time of the article gathering, the author had a total of 38 global citations when considering the *Scopus* database. Nonetheless, within our analysis (356 articles and 712 authors), the author was cited 17 times by other authors. Chang focuses on the effects of unionization on economic growth and unemployment accounting for three articles in our analysis, acting as a co-author in all of them and belonging to the "Labour market institutions and bargaining structure" group. In second place, Jan C. van Ours, with 40 global citations, was cited 13 times by other authors of our domain. This author appears two times in our database and both of his papers also treat the relationship between economic growth and unemployment through labour market institutions' effects. Ching-chong Lai and Ming-fu Shaw are tied in third place with 12 local citations, respectively, and they both co-authored with Juin-jen Chang.

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[8] The citation links depicted in Figure 12 are treated as unidirectional and there is no distinction in which direction the citation occurs.

Figure 12: Authors citation network (weight by total link strength), generated with VOSviewer (https://www.vosviewer.com/)
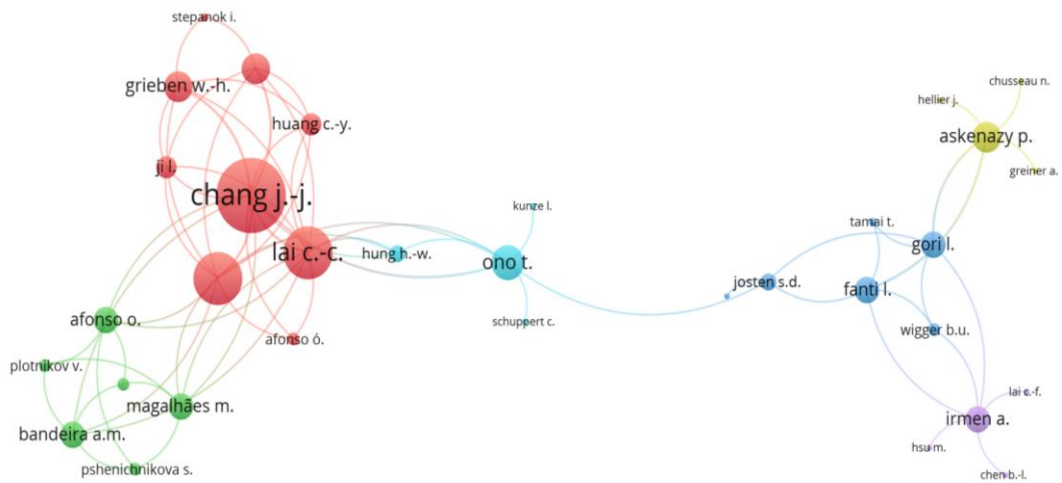
Source: own elaboration

Finally, the co-citation analysis brings some interesting insights into the theoretical and empirical background of these studies, allowing the identification of networks of authors and papers belonging to the same school, paradigm, or theory (Acedo et al., 2006). Following Small (1973), the frequency with which two earlier papers are mentioned together by a subsequent article is referred to as a co-citation. Thus, these co-citation patterns can be used to map out the relationships between these essential concepts that support the more recent literature.

Figure 13:Authors co-citation network (weight by number of citations), generated with VOSviewer (https://www.vosviewer.com/)
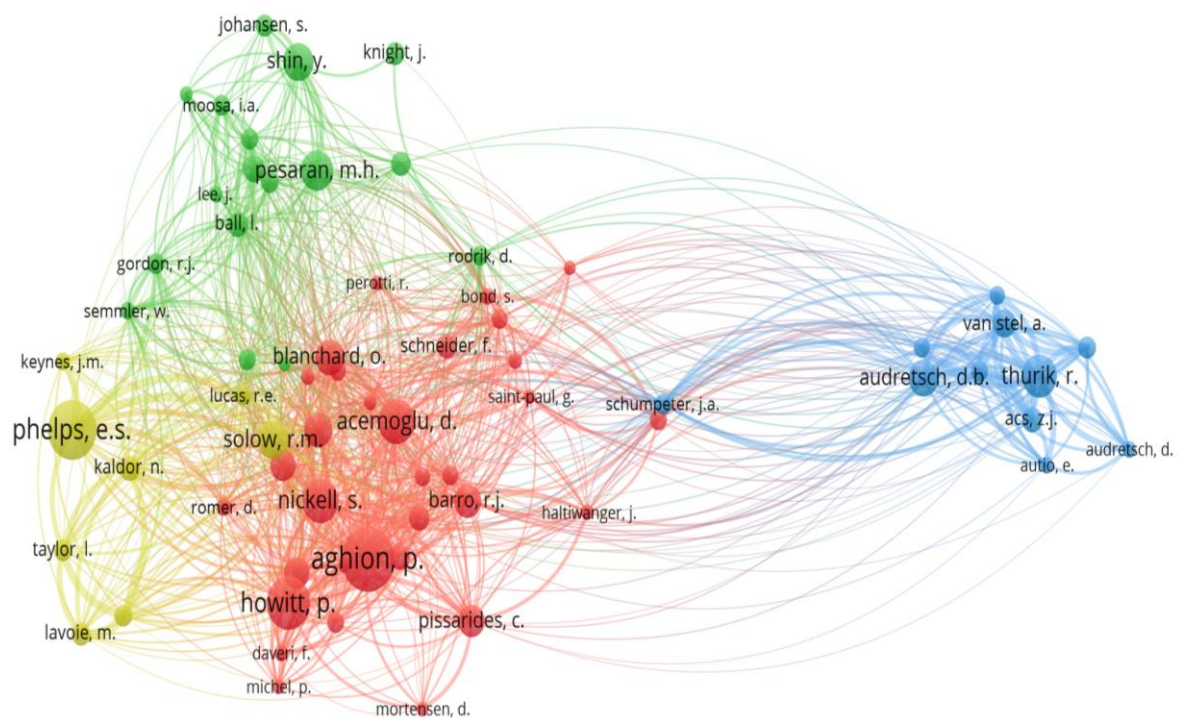
Source: own elaboration

Regarding the mapping of these patterns, the software found a total of 12703 cited authors, where 68 met the threshold of having a minimum of 20 citations in the latest literature. As expected, the map reveals that many authors pointed out in Aricó (2003)'s paper are still among the most prominent intellectual influencers of the current related literature (see Figure 13). Philippe Aghion is the most cited author with nearly one quarter of the relevant literature citing one of his articles.[9] Annex B comprises all the 68 authors that were taken into consideration and their respective citation count and total link strength given by the software.

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[9] Christopher Pissarides presents the same number of citations as Philippe Aghion. However, in the VOSviewer authors database, the first is referred to under two names: Pissarides C. (43 citations) and Pissadires C. A. (42 citations).

4.4 Journal ranking of the growth-unemployment nexus literature

Journal rankings are a powerful tool to measure research quality, demonstrating growing importance in academic performance management. However, many widely known rankings do not make clear what are the more specific criteria implicit in their classification (Rafols et al., 2012). Therefore, the journal ranking analysis was carried out using *SCImago* Journal Rank (SJR) and the average SJR was calculated for each group of effects that were found in the selection procedure of this bibliometric analysis. This indicator provides many advantages when compared with the *Journal Impact Factor* (IF) present in the *International Scientific Indexing* (ISI) domain. According to Falagas et al. (2008), that compare these two indicators, the first one comprises a larger source database, is open access, and provides a better assessment of the quality of citations.

To measure the average SJR per group of effects, the selected 356 articles were compared against the *SCImago* journal rank 2021 database. Despite gathering information from all journals belonging to all the subject areas, categories, and countries, the SJR was not available for 43 articles.[10] Thus, the information presented in Table 3 is restricted to the articles whose ranking is available in the *SCImago* 2021 database.[11] As it reveals, the average SJR is below 1 for every group. Labour market institutions and bargaining structure occupy the first place with an average score of 0,982. In its turn, the underground economy effects place last with an average SJR of 0,318. The low average SJR may imply that research regarding this topic still does not capture the attention of top researchers. The reasoning behind these results may perhaps be that neoclassical economic theory does not foresee unemployment in the long run. Since the neoclassical theory is still the dominant paradigm of analysis, most papers may be assuming a natural unemployment rate and do not analyse the intricate relationship between economic growth and unemployment.

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[10] Taking into consideration the 356 articles selected, the *SCImago* journal rank 2020 database performed worse, with 45 articles not having available information about their ranking.
[11] The "other effects" group was not included in the SJR analysis.

Table 3: *SCImago* journal ranking by group of effects

Group of effects	Total SJR	Number of Articles	Average SJR
Labour market institutions and bargaining structure	46,141	47	0,982
Initial effects	32,985	40	0,824
Technological skills and agglomeration economies	9,818	12	0,818
Entrepreneurial activity effects	15,912	22	0,723
Inequality and income distribution	9,281	14	0,663
Structure change, productivity growth, education and training	19,148	29	0,660
Policy maker effects	56,711	105	0,540
Migration and Brain Drain	5,427	11	0,493
Financial markets and Banking sector effects	4,685	13	0,360
Underground economy effects	1,907	6	0,318

Source: own elaboration

5. Main contributions found in the literature after 2012

Section 5 presents a descriptive analysis of the main and most recent contributions discovered in the literature concerning the relationship between economic growth and unemployment. The following assessment translates into an effort to fulfil the gap in the literature that emerges from the fact that, to the best of our knowledge, there has not been a single publication after Aricó (2003) that provides an overview of the novel effects that have surfaced in the more recent literature regarding this topic.

5.1 Financial markets and banking sector effects

Hashimoto and Im (2016) developed a continuous-time overlapping-generations model to shed some light on the theoretical relationships between economic growth, unemployment, and asset bubbles. In their model, unemployment arises from matching frictions between unemployed workers and firms with vacant positions. Furthermore, households choose where to allocate their total assets between physical capital and the bubble asset, the former supplied by the government.

Unemployment is thus caused by labour market frictions, and labour efficiency is reflected in the interest rate since marginal productivity of capital impacts the interest rate.[12] Moreover, labour market conditions determine the existence of asset bubbles because interest rates are linked to asset returns. When the interest rates are high and unemployment is low, asset bubbles may exist in equilibrium (Hasimoto and Im., 2016). Hence, unemployment plays a crucial role in asset bubbles' existence.

Furthermore, the authors determined the required conditions for the existence of asset bubbles in equilibrium, accounting for two distinct equilibrium regimes, depending on the existence of asset bubbles. The bubble regime admits the existence of multiple equilibria where the economy may or may not exhibit an asset bubble. In turn, the non-bubble regime features only a single equilibrium where asset bubbles never occur.

Hence, under a bubble regime, they found two types of steady states: a positive bubble equilibrium and a bubble-less equilibrium. In a positive bubble equilibrium, the model suggests that the output growth rate positively depends on the interest rate and the bubble

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[12] In their model, labour efficiency is related to unemployment benefits, since they found that unemployment benefits raise the value of unemployment. Therefore, reducing the unemployment benefits increases the employment rate thus making the labour market more efficient.

expansion rate. Hashimoto and Im (2016) show that for asset bubbles to exist in equilibrium, the unemployment rate must be below a certain threshold level, and the interest rate above another threshold level, since the authors found both these variables to be negatively correlated. Since their analysis admits labour market frictions, the output growth rate and the interest rate are contingent on the unemployment rate.

When comparing bubble and non-bubble regimes, the authors find that the rate of output growth is always higher under the former regime. For instance, when applying changes in labour market policies, such as a reduction in unemployment benefits, which leads to a decrease in the unemployment rate, the interest rate increases, shifting the economy from a non-bubble to a bubble regime, with the latter presenting higher growth rates. Therefore, in this case, there is a negative relationship between economic growth and unemployment where the rise in interest rate serves as a transmission mechanism given the existence of asset bubbles.

Moreover, asset bubbles create a crowding-out effect caused by the misallocation of savings away from physical capital accumulation, however that effect is counterbalanced by the effects of the bubble expansion rate on the output growth rate. First, the bubble expansion increases the asset holding whose returns are linked to the interest rate. Second, the increase in economic growth increases growth in wages, thus creating more job vacancies which reduces unemployment. Second, unemployment reduction leads to an increase in economic growth through the interest rate channel.

5.2   Labour market institutions and bargaining structure

Dixon et al. (2017) built upon the Okun's Law to study the effects of labour market institutions as well as gender and age in the growth-unemployment relationship. Following the empirical methodology trend in the last decade, the authors focused their analysis on the period between 1985 and 2013, for 20 OECD countries. Their work revisits the Okun's Law by applying a hybrid specification, relating the unemployment rate to its equilibrium determinants and to the output gap. Allowing labour market institutional factors to affect the equilibrium rate of unemployment and the share of temporary workers to affect the relationship between the output gap and unemployment are the two key features of this paper. The former allows the derivation of time-varying equilibrium unemployment since institutional labour factors changed over time. The latter, which can be seen as a term to capture flexibility in the labour market, explains changes in Okun's coefficient over time,

avoiding the arbitrary imposition of different coefficients before and after the financial crisis of 2008. Additionally, since labour markets have become more flexible in the past two decades, this being particularly true for young workers, the share of temporary workers is higher and increasing at a faster pace than before. (Dixon et al., 2017).

When it comes to the effects of labour market institutions, they found a positive relationship between the unemployment rate and union density, the latter defined as the proportion of workers who are union members. However, the relationship between unemployment and union coverage (proportion of workers covered by collective bargaining) is not statistically significant. Their results also suggest that the unemployment insurance replacement rate is positively related with unemployment, although the effects of employment protection legislation are not significant.

Furthermore, the baseline model is modified to allow for gender and age to affect Okun's growth-unemployment relationship. Succinctly, it was found that the responsiveness of the unemployment rate to changes in the output gap decreases with age. For younger jobseekers, a positive change in the output gap will lead to a more pronounced decrease in unemployment, when compared to other age groups. This result is particularly interesting from the policymaker's point of view since an increase in economic growth reduces the overall unemployment rate in addition to the distributional effect of also bringing youth unemployment down. Despite finding gender-based effects on Okun's relationship, they were not as pronounced as the effects provoked by the introduction of different age groups.

Considering now the role of trade unions, Chang and Hung (2014) study the relationships between unemployment, economic growth and income inequality. In short, their model considers a unionized economy considering households, firms, a union trade, and a government as the four main agents. To simplify their analysis, the population size and the number of firms are normalized to 1. Households derive their utility from consumption and leisure. Firms hire both physical capital and labour to produce goods. The union negotiates with an employer federation a wage-employment contract, through a generalized Nash bargaining solution, given the union's relative preference for both. Finally, the government collects a lump-sum tax to finance the expenditure on unemployment benefits.

Thereby, Chang and Hung (2014) explore the effects of unionization by resorting to a balanced growth path (BGP) equilibrium. One of the novelties presented in this paper is the author's decision to deal with "effective labour". This means that, in spite of only accounting

for the number of employed workers, they also consider the working hours provided by each worker. They show that the employment rate, which is inversely related to the unemployment rate, is positively related to the consumption-capital ratio. Moreover, they also show that the employment rate is negatively related to the union's bargaining power (degree of unionization) and the unemployment benefit-GDP ratio. However, the average working hours present opposite relationships between the variables mentioned above. By dealing with "effective labour", Chang and Hung (2014) show that, in response to a higher degree of unionization, there is the possibility of the coexistence of high unemployment and a higher balanced-growth rate. Therefore, unionization can lead to a positive relationship between economic growth and unemployment.

The reasoning behind this link is the following. An increase in the degree of unionization allows the union to raise the bargaining wage for its member due to its increased bargaining power. The rise in the bargaining wage rate decreases the employment rate (increases the unemployment rate). Also, facing a higher wage rate, households are inclined to increase their supply of working hours while employed.

Therefore, a higher degree of unionization leads to a decrease in the number of employed workers, but each employed worker provides more working hours. Given that, in their model, the working-time effect dominates, the effective labour force increases despite the equilibrium unemployment rate being higher. This increase in the effective labour force increases the marginal productivity rate, which in turn increases the balanced-growth rate. Hence, by accounting for effective labour the model "provides a plausible explanation for the positive relationship between unemployment and growth" (Chang and Hung, 2014, p. 417).

5.3   Migration and Brain Drain

Şerban et al. (2020) empirically studied the impact of skilled and unskilled immigration on economic growth and the unemployment rate. Their analysis focuses on a set of 28 countries, all belonging to the European Union (EU), for the period ranging between 2007 and 2017.

Following the authors, immigration has been playing an important role in economic development. Through its effects on unemployment and income level, immigration impacts economic growth. The level of education of the migrants is taken as the main mechanism

from which immigration affects growth. This process is known as the skill composition channel which separates skilled from unskilled migrants, taking into consideration their level of schooling. Therefore, migrants that have tertiary education are referred to as skilled, whereas those with less education are referred to as unskilled. This separation is crucial due to the different impacts that both types of migration have on both origin and destination countries.

To carry out their empirical analysis, the authors estimate six dynamic panel models using the system of generalised methods of moments (GMM). Two different stages were considered. In the first stage, the authors investigated the impact of immigration variables on growth. In the second, they introduced the unemployment rate to understand how it is affected by skilled and unskilled immigration and by economic growth.

Considering the immigration impacts on growth in the receiving (host) country, for a set of 28 EU economies, the resulting estimations revealed that the coefficients for skilled and unskilled immigration were statistically significant at 1% and 5%, respectively. Skilled immigration seems to have a positive impact on the host country's economic growth whereas unskilled immigration impacts growth negatively. A variable capturing the percentage of the skilled population in the total population of the host country was also accounted for. The results showed that the skilled population has a positive influence on growth demonstrating how the labour force's endowments of skills contribute to economic growth.

Worrying about the possible heterogeneity between the EU countries selected for their analysis, the authors created two different clusters. The more developed EU15 countries, which account for most EU migration inflows, make up the first cluster. In turn, the second cluster represents the countries that joined the European Union after 2004. The estimation provided consistent results with the idea of the EU15 being the main migrants' attractors and the main beneficiaries of immigration. The coefficients for the EU15 countries remained significant at 5% while the coefficients for the new EU members cluster were not.

After this first stage, where the effects of immigration on economic growth through the composition skill channel were investigated, the authors carried out a second analysis taking the unemployment rate as the dependent variable. Following Șerban et al. (2020), analysing the impact of immigration on relevant factors for the labour market allows a better understanding of the signs of the relationship between skilled and unskilled immigrants and their impact on economic growth. The results for the whole set of the 28 EU countries,

revealed a negative relationship between skilled immigration and unemployment, meaning that an increase in the former leads to a decrease in the latter. However, the opposite occurs with unskilled immigration. The author's estimates show that an increase in unskilled immigration leads to an increase in the unemployment rate, thus the relationship between the two variables is positive, reflecting that after the financial crisis of 2008, sectors that hired unskilled immigrants suffered a strong output decrease. Moreover, the skill level of the population was found to have a positive sign relationship with the unemployment rate. This goes in hand with the fact that the EU countries with higher shares of skilled workers are also the ones who have lower average GDP growth for the period between 2007 and 2017. Due to their proximity to the technological frontier, these are the economies that hardly experience productivity increases. (Şerban et al., 2020).

Although the signs of these relationships are in accordance with the researchers' predictions the values of the coefficients were not significant. Only real GDP per capita growth revealed significance at 1% with a negative signed coefficient. The authors argue that these findings may suggest that the role of the skill endowment alone does not have a significant effect on unemployment. However, a broader range of structural factors which affect both unemployment and GDP per capita might explain the decrease in the unemployment rate.

Furthermore, two additional dynamic panel models were estimated to account for the heterogeneity possibility among the different EU countries. Interestingly, economic growth revealed the expected negative relationship with the unemployment rate for both clusters, however, the coefficients were only statistically significant for the new EU states cluster. These findings are consistent with the fact that the relationship between these two variables is stronger in the context of higher real GDP per capita growth, which is the case of the new EU member states. The low average growth and high natural unemployment rates that plague many European economies since the early 70s, exacerbated by the recent financial crisis, could explain this lack of significance of the coefficient related to economic growth for the EU15 countries.

Finally, the signs of the coefficients associated with immigration remained unchanged. Nevertheless, it is noteworthy that the coefficient related to unskilled immigration is substantially greater for the EU15 cluster, reflecting the historical flows of unskilled immigrants from the new to the older EU member states.

5.4   Policy maker effects

Brecher and Gross (2020) studied the effects of economic growth on unemployment and income distribution relying on a minimum wage analysis with optimal saving. Since our bibliometric analysis focuses on the growth-unemployment nexus, the income distribution analysis will be excluded from this analysis since it does not add to the research topic in question.

Their model makes use of a single good economy, under perfect competition and constant returns to scale. This three-factor model also accounts for physical capital accumulation, which arises from optimal savings, and fixed endowments of skill and unskilled labour. The authors assume the existence of unemployment only for unskilled labour due to a minimum real wage determined by government legislation. Therefore, they set the wage for unskilled labour to surpass the level required for full employment. In turn, the wages related to skilled labour are assumed to be perfectly flexible, resulting in full employment of this factor of production. Although analysing the classic case of unemployment due to a minimum wage constraint, this paper "sheds new light on the relationship between growth and unemployment, by featuring the important role of factor substitutes/complements" (Brecher and Gross, 2020, p. 244).

They find that for there to be a trade-off between economic growth and unemployment, capital and unskilled labour must be complementary factors. The rationale behind this finding is that a rise in the rate of labour-augmenting technical progress leads to an increase in the real rental rate of capital. This causes a decrease in the stock of capital per unit of labour due to its diminishing marginal productivity. Therefore, this decrease is accompanied by a reduction of unskilled labour if unskilled labour and capital are complements. If they were substitutes, unskilled labour would increase. The authors argue that despite some empirical studies suggesting that capital is more complementary to skilled rather than unskilled labour, there is no consensus on whether unskilled labour is a complement or a substitute in relation to capital, thus they explore both approaches.

To reasonably assume complementarity between unskilled labour and capital, the production function presents constant elasticity of substitution (CES). This ensures that the input-ratio elasticities are all the same and equal to the constant elasticity of technical substitution (Brecher and Gross, 2020).

The possibility of capital and unskilled labour being substitutes relies on the consideration of a third factor of production, skilled labour. Hence, for this case, the production function must be of a two-level (nested) CES type as presented by Sato (1967).

After presenting a detailed theoretical analysis of their model, the authors also provide a numerical analysis of the effects of economic growth on unemployment and income distribution. To conduct these numerical simulations, they make use of a discrete-time version of their model taking a balanced growth path as a starting point for the economy, which is then affected by the exogenous rate of labour-augmenting technical progress which falls permanently after a certain period. The reasoning behind this growth-rate decrease approach is the economic growth slowdown observed in many advanced economies in the last decades.

Once again, our analysis will only focus on the relationship between growth and unemployment. Briefly, for the case where capital and unskilled labour are complements, thus conditioned to the regular CES technology, their results suggest a clear trade-off between unemployment and economic growth. A decrease in the growth rate, from 2% to 1%, causes the steady state unemployment rate to decrease from 10% to 2,2%. Alternatively, considering the case where capital and unskilled labour are substitutes and the production function is of a two-level CES type, the same decrease in the growth rate causes a relatively small increase in the unemployment rate, from 10% to 12,6%.

5.5   Structure change, productivity growth, education and training

Regarding this topic, Jung et al. (2017) aimed to explore the macroeconomic impacts of innovation on economic growth and unemployment. The authors introduced factor-biased technical progress to account for the distinct effects that innovation may have on different types of labour considering their education attainment (high-skilled, skilled, and unskilled).[13] Hence, skill and capital-biased technological change emerge as key concepts of their analysis.

On one hand, skill-biased technological change is referred to as the process of implementation of new technologies which usually favours skilled over unskilled labour. This occurs because new technologies require workers with specific skills to foster productivity, ruling out workers who do not possess those skills. On the other hand, capital-biased

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[13] Workers holding master's and doctor's degrees were considered as high-skilled workers. College graduates were considered as skilled workers whereas workers with high school education or less were classified as unskilled workers.

technological change accounts for the human labour substitution effects caused by the introduction of capital-intensive goods, such as automated machines, within the production process. The increasing role of these capital-intensive goods leads to a fall in wages relative to the cost of capital and a shortage of labour share wages in GDP, which has led, in recent decades, to a decline of the labour share in GDP (Jung et al., 2017).

Moreover, a third concept, "compensation effect", was considered. The advocates of this compensatory theory, introduced by David Ricardo, argue that the initial harmful effects of innovation on employment are counterbalanced by new mechanisms, promoting labour-intensive technology and industry, which may have a positive effect on employment.

The authors present a computable generable equilibrium model (CGE), calibrated for South Korea, to deal with the direct effects of innovation on employment through skill and capital-biased technological change and with the indirect effects resulting from the spillover effects of innovation and compensation. Furthermore, R&D investment and knowledge capital stocks were included in the model to reflect the characteristics of innovation. The former was considered as an input factor which is accumulated through R&D investment. The spillover effects emerging from R&D were considered as a function of both government and industries' knowledge stock. Moreover, to incorporate skill and capital-biased technological change into the CGE model, the authors made use of a two-level CES function as their production function, which also allowed them to capture the substitution possibilities between factor inputs.

Following, Jung et al. (2017), the simulation results for policy scenarios show that an increase in R&D investment fosters economic growth, increases job creation with higher aggregate demand for labour and thus reduces unemployment. These results suggest that the detrimental effects of factor-biased technological change are offset by the indirect employment effects of technological innovations. In other words, the production increase caused by productivity improvements and the spillover effects in the economy more than compensates for the workers' replacement caused by skill and capital-biased technological change. Therefore, technological innovation with a higher level of R&D investment fosters economic growth and reduces unemployment. Nonetheless, the results suggest a much stronger link between the level of R&D investment and the degree of skill bias in technological change, with high-skill labour reporting a higher sensitivity to variations in R&D, suggesting a strong presence of skill-biased technological change. However, this skill

premium may have detrimental effects on a society leading to inequality and income polarization within the economy.

Although the authors do not deeply explore the mechanisms that connect both economic growth and unemployment, their paper provides interesting insights on how innovation-driven growth may present distinct impacts on the unemployment rate when considering distinct education attainment among workers.

5.6   Underground economy effects

Regarding this topic, Lisi (2016) presented a very distinct analysis of the relationship between unemployment, the underground economy, and economic growth. As the author points out, there seems to be no consensus in the literature regarding the relationship between these three variables nor on the growth-unemployment topic. Despite the underground economy is harmful to economic growth, it is reasonable to admit that some unemployed workers may be absorbed by the shadow economy.[14] In a quick mental exercise, the author shows that even if growth and unemployment are inversely related, the correlation between economic growth and the underground economy can become ambiguous due to the underground economy's decreasing effect on unemployment. Hence, this paper tries to shed some light on those intricate relationships.

Although making use of a standard matching model, the author takes a behavioural economics approach to analyse the macroeconomic effects of tax compliance. Therefore, in this model, the taxpayer's decision to pay or evade taxes depends on their trust in the tax authority. Meanwhile, the trust level is subject to the power of the tax authority, which translates into the extent of its surveillance of the taxation system and the penalties imposed on tax evaders. Lisi (2016) admits that the size of the shadow economy is equal to income tax evasion, which in turn, is simply defined as the difference between true productivity and declared productivity. For that reason, the terms underground economy and tax evasion are used interchangeably. However, this might not be the most accurate definition, since tax evasion is more often associated with the informal sector, i.e. non-declared legal activities and the underground economy is usually linked with illegal activities.

The paper is divided into two distinct parts. In the first, a static version of the model is developed to find the steady state solutions. This allows a better understanding of the

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[14] The author makes use of the term "shadow economy" as a synonym for "underground economy".

relationships between tax compliance, job creation and unemployment. In the second part, the inclusion of economic growth in the analysis makes the model dynamic, thus contributing to a better understanding of the long-run links between unemployment, the underground economy, and economic growth (Lisi, 2016).

Regarding the static version of the model, the main result is that the relationship between the tax authority and the taxpayers dictates the relationship between job creation, tax compliance, and tax evasion (the underground economy). In a society where the tax authority respects the taxpayers and applies transparent and fair procedures, thus a trustful society, an increase in the declared income reduces tax evasion (the underground economy) and increases market tightness (more job creation), hence there is a positive relationship between job creation and tax compliance. Oppositely, in a distrustful society job, creation and tax compliance are negatively correlated.

These results suggest that job creation can be higher in both types of societies, thus both cases leading to a decrease in unemployment, given the Beveridge curve which dictates a negative relationship between the job creation rate and the unemployment rate. Therefore, the relationship between the underground economy and unemployment is ambiguous: positively correlated in a trustful society and negatively correlated in a distrustful society.

Given this controversial issue, Lisi (2016) introduces economic growth as a relevant variable to the model to check if good macroeconomic performance (high growth and low unemployment) is attainable in a distrustful society.

Briefly, the author presents a modified Okun's law to admit the role of the underground economy. In his version, unemployment is determined by Okun's law coefficient and by the difference between the output growth rate and the potential output growth rate, where the former is impacted by the existence of a shadow economy. Thus, an increase in the growth rate of tax evasion (shadow economy) reduces the potential output growth rate. The present dynamic model suggests a negative long-run relationship between growth and unemployment and that economic growth is higher in a trustful society when compared to a distrustful one.

Once again, the author finds ambiguity in the effects caused by an increase in tax evasion (shadow economy). However, by approaching this issue from a short vs. long-term perspective, the author can reconcile the conflicting results. On one hand, the model suggests that the underground economy can only reduce unemployment in the short run due to the

temporary positive effect that the reduction in the potential output growth rate has on the cyclical unemployment rate (i.e. decreases the cyclical unemployment rate). This occurs because the difference between the output growth rate and the potential output growth rate will be higher. On the other hand, when taking a long-run perspective (where there is no output gap), the shadow economy will increase the unemployment rate because the output growth rate will be permanently lower. Therefore, the author claims that there can be no economic growth in a distrustful society since it requires a reduction in both unemployment and the underground economy.

Table 4 summarizes the main contributions analysed in this section.

Table 4: Main contributions found in the literature between 2013 and 2021 regarding the growth-unemployment nexus

Effects	Article	Methodology category	Mechanism category
Asset bubble effect	Hashimoto and Im (2016)	Formal	Financial markets and banking sector effects
Age and gender effects	Dixon et al. (2017)	Empirical	Labour market institutions and bargaining structure
Skill composition effect	Şerban et al. (2020)	Formal + Empirical	Migration and Brain drain
Complementarity effect	Brecher and Gross (2020)	Formal	Policy maker effects
Unionization effect	Chang and Hung (2014)	Formal	Labour market institutions and bargaining structure

Effects	Article	Methodology category	Mechanism category
Factor-biased technological change effect and compensatory effect	Jung et al. (2017)	Formal + Empirical	Structure change, productivity growth, education and training
Tax evasion effect	Lisi (2016)	Formal	Underground economy effects

Source: own elaboration

6.   Concluding remarques

In this paper, we analyse the main patterns of research regarding the relationship between economic growth and unemployment through a quantitative bibliometric analysis. We considered a set of almost one thousand articles that were gathered using the *Scopus* database, finding 356 relevant articles for the period between 2003 and 2021. Furthermore, all the relevant papers were classified in terms of related mechanisms and methodology approaches.

We found that the growth-unemployment nexus research topic is growing, specifically through the introduction of new mechanisms. Hence, we took an initial vs. new effects approach in which the first accounts for the mechanisms identified in Aricó (2003)'s survey plus the Okun's law. For the whole timeframe of our analysis (2003-2021), 88% of the relevant articles described at least one new effect.

Using 2012 as a benchmark, we divided our analysis into two periods. The reasoning behind this was the remarkable growth of related literature after 2012 which we suspect may be linked to the financial crisis of 2008 that led more researchers to focus on the relationship between economic growth and unemployment. This growth in the related literature was accompanied by a change in the methodological approach. For the period between 2013-2021, our results show a clear dominance of papers that use an empirical approach. 57,4% of the relevant articles belong to the "empirical" category. Moreover, articles that combined their theoretical or argumentative analysis with an empirical application also increased their weight in the total number of related articles, when compared to the period between 2003-2012. Regarding that first period, the "formal" methodology approach was the most common accounting for almost 34% of the articles, which drastically changes in the following period, where the "formal" category only comprises 8,1% of the articles.

When it comes to the categorisation of the articles by mechanism group, the "policy maker effects" group places first for both periods. However, two new groups emerge in the period between 2013 and 2021, namely the "underground economy effects" and "technological skills and agglomeration economies" categories. Additionally, the "entrepreneurial activity effects" presented a great increase, going from 2 published articles in the first period to 27 in the last period. This increase is still very significant even though the number of relevant articles almost tripled from the first period to the second.

We made use of the *VOSviewer* software to provide a comprehensive bibliographic overview of the related literature. Results show a low interaction between clusters of authors both through the citation and co-citation networks. In addition, we assess the research quality of each mechanism group, looking at the journal rankings. "Labour market institutions and bargaining structure" presents the highest score. However, results suggest a low average SJR throughout all groups, meaning that this topic still does not attract top investigation.

Finally, the last section of this work presented a descriptive analysis of the most recent and most relevant contributions to the growth-unemployment-related literature. Several links were found such as the interest rate channel under an asset bubble, the demographic composition effects such as age and gender, the skill composition channel emerging from labour migration, the complementarity between unskilled labour and capital under a minimum wage framework, the degree of unionization effect, factor-biased technological change and the compensatory effect within an innovation-driven model, and the effects of tax evasion under a behavioural economics model.

For future research, it may be relevant to define a new theoretical framework that can account for some of these new effects found in the recent literature. Moreover, the inclusion of the term "employment" in the *Scopus* search engine (and not only "unemployment"), may add up to this bibliometric exercise. Making use of different databases simultaneously such as *World of Science*, *Google Scholar*, and *CSA Illumina* could have also broadened the range of the research. Lastly, a comparative analysis of similar "new effects" found in the literature between the two periods (2003-2012 and 2013-2021) could have given interesting insights into the evolution of each growth-unemployment link.

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8. Annex

8.1. Annex A

Authors	Title	Year	Source title	Abstract	Category	Type
Novejarque Civera J., Pisá Bó M., López-Muñoz J.F.	Do contextual factors influence entrepreneurship? Spain's regional evidences	2021	International Entrepreneurship and Management Journal	This paper examines the socioeconomical forces influencing entrepreneurial activity at both the regional and country level in Spain during the period from 2000 to 2017. Using institutional data, we find significant differences in new firm formation rates by regions. Such variations in firm birth rates are mainly explained by economic growth, unemployment, establishment size, and human capital. Moreover, human capital greatly determines the effect of research and development investment on new firm formation rates. As a result, our work enriches our knowledge of the socioeconomical drivers motivating entrepreneurial action. © 2020, Springer Science+Business Media, LLC, part of Springer Nature.	Entrepreneurial activity effects	A+E
Lydeka Z., Karaliute A.	Assessment of the effect of technological innovations on unemployment in the european union countries	2021	Engineering Economics	Innovation and unemployment are two economic elements related to each other that have been constantly analyzed in the economic debates from the beginning of the 21st century. A classical question is whether innovation creates or destroys jobs. The conventional approach contemplates innovation as a transformation instrument of an economy, resulting in economic growth and jobs creation. Another approach points out to various mechanisms which can compensate the primary effect of innovations and cause an ultimate effect of innovations on labour demand to be unclear. In view of the fact that there are many different explanations about the impact of innovations on labour demand, this paper, after the analysis of theoretical and empirical scientific literature in this field, provides an empirical analysis with unemployment as the dependent variable. The authors use data from 28 European Union countries for the period of 1992-2016 and pursue to research how technological innovations affect unemployment rate. There are two core independent variables - expenditure on R&D (research and development) and number of patent applications - as the main proxies for technological innovations. Control variables that affect unemployment are included to the model as well. The model was estimated using a dynamic two-step System Generalized Method of Moments (GMM-SYS) of a panel data system. After the composition of 12 different estimations of the model, the results suggest that, in some cases, technological innovations affect unemployment. © 2021, Kauno Technologijos Universitetas. All rights reserved.	Structure change, productivity growth, education and training	E
Agénor P.-R., Ozdemir K.K., Pinto Moreira E.	Gender Gaps in the Labour Market and Economic Growth	2021	Economica	This paper studies the effects of policies aimed at mitigating discrimination against women in the marketplace on gender gaps in the labour market, unemployment and long-run growth. The analysis uses a gender-based overlapping generations model with labour market rigidities. Gender bias in the workplace varies inversely with the presence of skilled women (who operate as agents of change) in employment and has a direct impact on their bargaining power in the family. The model is calibrated for Morocco. Experiments show that although the growth effects of policies aimed at mitigating gender bias in the workplace are significant and are magnified through a stronger presence of skilled women in the labour market, a trade-off may emerge with respect to female unemployment when they are combined with subsidies to women's training. To mitigate this trade-off, anti-discrimination policies in the marketplace may need to be complemented by across-the-board measures aimed at reducing labour costs and raising productivity. © 2020 The London School of Economics and Political Science	Policy maker effects	F

Authors	Title	Year	Source	Abstract		
Chen T.-C., Kim D.-H., Lin S.-C.	Nonlinearity in the effects of financial development and financial structure on unemployment	2021	Economic Systems	The positive role of the financial sector in promoting economic growth has been well established among academics and practitioners since the early 1990s. However, more recently, there has been increasing evidence pointing to a vanishing, and even negative, effect of financial sectors at high levels of financial depth, particularly since the global financial crisis of 2007−2009. Too much finance could hurt growth. The paper shifts the focus towards labor market outcomes by examining whether too much finance also hurts unemployment. Using a dynamic simultaneous model via system GMM estimation and a panel of 97 OECD and non-OECD countries for the period 1991–2015, we find that the answer depends on the type of finance and the extent of a country's labor market flexibility. Specifically, (i) too much financial development hurts unemployment for countries with more rigid labor markets; (ii) too bank-centered or too little market-oriented financial systems worsen unemployment, particularly for countries with more flexible labor markets; and (iii) too much credit to private enterprises deteriorates unemployment in countries with more rigid labor markets, whereas too little credit to households worsens unemployment in countries with more flexible labor markets. Evidence also shows that these unemployment consequences possibly run through investment and entrepreneurship channels. © 2021 Elsevier B.V.	Financial markets and Banking sector effects	E
Crowley P.M., Hudgins D.	Okun's law revisited in the time–frequency domain: introducing unemployment into a wavelet-based control model	2021	Empirical Economics	This paper integrates the Okun's law (OL) relationship into a wavelet-based control (WBC) model to compare simulated optimal fiscal and monetary policy for the US when the policymakers place varying emphasis on the primary macroeconomic targets of unemployment, output growth, and inflation. The simulation results show that the unemployment rate is impacted differently across frequency ranges. We find that fiscal policy is the most aggressive when economic growth is emphasized as a policy objective, whereas monetary policy is relatively more aggressive when the inflation rate is emphasized. Given that the US inflation rate was below target for the start of the simulation exercises, when it is emphasized, that leads to lower interest rates, a depreciated exchange rate, and larger aggregate investment. We also find that introducing OL into a WBC model leads to less expansionary fiscal and monetary policies when unemployment is initially low. © 2021, Springer-Verlag GmbH Germany, part of Springer Nature.	Initial effects	F+E
Felan J.T., Bell J.R., Upadhyay S., Johnson V.L.	Economic factors and the Kauffman startup activity index	2021	Journal of Research in Marketing and Entrepreneurship	Purpose: The purpose of this study is to examine entrepreneurial activity in the USA and whether it supports a "pull" or a "push" theory of startup creation. The "push" theory argues that individuals are pushed into entrepreneurship by negative external forces, such as job dissatisfaction, difficulty finding employment, insufficient salary or inflexible work schedule. The "pull" theory contends that individuals are attracted into entrepreneurial activities seeking independence, self-fulfillment, wealth and other desirable outcomes. Design/methodology/approach: This paper incorporates three well-established measures when looking at impact factors; unemployment rates, gross domestic product (GDP) and household income. The current study is unique in that it introduces the Kauffman Startup Activity Index (KSAI) as the measure of entrepreneurial activity when examining impact factors. Findings: The results of this study support the "pull" theory (or the entrepreneurial effect) of startup activity and further supports the idea that entrepreneurs look for opportunities in the marketplace, rather than being "forced" into self-employment. Research limitations/implications: Research is limited to having US data at the national level. Follow-up research could include parsing the data out to the state and local levels. Social implications: The results of this study suggest to the economic development community that incentives during times of economic growth could further incent entrepreneurial activity. Originality/value: The tact used by the authors is unique in that it relied upon three historical variables – unemployment rates, US GDP and household income – and introduced a new variable, the KSAI, rather than the previously relied upon national startup activity data or startup activity. © 2021, Emerald Publishing Limited.	Entrepreneurial activity effects	E

Nabi M.S.	Tunisia after the 2011's revolution: Economic deterioration should, and could have been avoided	2021	Journal of Policy Modeling	The political instability and social unrest in Tunisia since 2011, generated a short-term foresight of the macroeconomic management which contributed to the deterioration of the country's macroeconomic fundamentals. The objective of this paper is to provide the policy makers with quantitative arguments showing the importance to undertake the macroeconomic stabilization and the structural reforms that improve the total factor productivity, one of the main engines of a sustained economic growth. To that end, the paper employs a financial dynamic general equilibrium model calibrated using six flow-of-funds accounts representing the Tunisian economy in 2010. In a first stage, I reproduce the main macroeconomic variables observed for the Tunisian economy over 2011–2018. In a second stage, the model is used to compare the impacts of counterfactual policy scenarios on the Tunisian macroeconomic performance. The results show that the economy could perform much better, in relation to a battery of macroeconomic indicators (economic growth, unemployment, public external and domestic debts, current account, fiscal balance) under alternative economic policies. The most insightful results are obtained under the scenario of a total factor productivity's growth progressing at its average level of 2001–2010. Indeed, this could generate an average yearly gain in terms of GDP growth of 3.45 percentage points and a reduction of the average unemployment rate by 7 percentage points over the same time horizon. © 2021 The Society for Policy Modeling	Policy maker effects	F+E
Chu A.C., Cozzi G., Fan H., Furukawa Y.	Inflation, Unemployment, and Economic Growth in a Schumpeterian Economy*	2021	Scandinavian Journal of Economics	In this paper, we explore the relationship between inflation and unemployment in a monetary Schumpeterian growth model. Under the cash-in-advance (CIA) constraint on research and development (R&D), higher inflation reduces innovation and increases unemployment. Under the CIA constraint on consumption, higher inflation also reduces innovation but decreases unemployment instead. Therefore, the two CIA constraints imply drastically different relationships between inflation and unemployment. This theoretical result is consistent with our empirical finding, and it provides a plausible explanation for the mixed empirical results in the literature. Calibrating our model to aggregate data in the United States and the Eurozone, we also explore the relationship between inflation and unemployment quantitatively. © The editors of The Scandinavian Journal of Economics 2020.	Initial effects	F+E
Al-Rubaye R.K.A., Kadhum T.A.-A.	Analysis Of Monetary Policy Trends And Their Impact On Indicators Of Economic Stability In Iraq Analytical Study For The Period From (2003-2015)	2021	Academy of Entrepreneurship Journal	The research dealt with monetary policy trends and the extent of their impact on indicators of economic stability in Iraq, which include GDP growth, inflation and unemployment. The study showed that monetary policy has achieved a lot of success in this aspect, especially after the year 2003 in terms of achieving economic growth and raising the average share. Per capita gross domestic product, as well as reducing inflation rates and reducing the inflationary gap, as well as reducing unemployment rates to low levels due to the increase in the volume of employment and the increase of appointments in the public sector, as well as the Central Bank of Iraq obtaining its independence according to Law No. 56 of 2004 and achieving stability a the Iraqi dinar due to the application of the currency auction, the increase in the volume of operation and the increase in the credit rates of commercial banks, which increased the volume of investment in both the public and private sectors, which increased the chances of achieving economic stability in Iraq. © 2021, Academy of Entrepreneurship Journal. All Rights Reserved.	Policy maker effects	E
Ghose A.K., Kumar A.	India's Deepening Employment Crisis in the Time of Rapid Economic Growth	2021	Indian Journal of Labour Economics	The employment conditions in India were steadily deteriorating in the 2000s. Agriculture not just stopped accommodating new workers but was increasingly rendering many of the already employed workers—mostly less educated—redundant. Meanwhile, non-agriculture was generating employment at an increasingly slower pace and was also generating it basically for the educated. So, it was failing to absorb the labour moving out of agriculture. Under these conditions, progressive exclusion of the less educated from employment and decelerating employment growth of the educated emerged as the main trends, which showed up in declining employment rate, rising unemployment rate and, ironically enough, steady improvement in the average quality of employment. All this was happening in a period of rapid economic growth. The proximate explanation is that growth was less rapid	Structure change, productivity growth, education and training	A

				than the skill-biased technological change that was associated with it. The deeper reason is that the benefits of growth accrued to a thin top layer of the population—the rich. © 2021, Indian Society of Labour Economics.		
Knight J.	A Tale of Two Countries and Two Stages: South Africa, China and the Lewis Model	2021	South African Journal of Economics	The paper compares the economic progress of two countries, South Africa and China, in relation to the Lewis model. These economies are chosen because they have interesting similarities and also interesting differences. At the start of economic reform in China and with the advent of democracy in South Africa, both countries had surplus labour: they were at the first, labour-surplus, stage of the Lewis model. It is shown that, since then, South Africa has continued to experience surplus labour: the unemployment rate has risen. By contrast, China's labour market is shown to have tightened, and there is evidence that China has entered the second, labour-scarce, stage of the Lewis model. The difference lies in their growth rates. There are sections explaining why the South African economy has grown slowly and why the Chinese economy has grown rapidly, in relation to the growth of their labour forces. The Lewis model provides an enlightening framework for explaining how widely the fruits of economic development can be shared. © 2021 Economic Society of South Africa	Structure change, productivity growth, education and training	A+E
Fujio M., Lei Y., Deng L., Khan M.A.	The miniature two-sector model of optimal growth: The neglected case of a capital-intensive investment-good sector	2021	Journal of Economic Behavior and Organization	This paper considers the neglected case of a capital-intensive investment-good sector in the two-sector Robinson-Shinkai-Leontief (RSL) model of discrete-time optimal economic growth. We find the optimal policy to be surprisingly simple and uniform between the discounted and undiscounted cases. The "straight-down-the-turnpike" policy, first identified by Winter and Shell, entails unemployment or excess supply of capital throughout the optimal transition dynamics. We extend our analysis to the case of circulating capital and find the optimal policy to have the same property. We also briefly indicate possibilities for application to topical concerns. © 2020 Elsevier B.V.	Policy maker effects	F
Mihajlović V., Fedajev A.	Okun's law (A)symmetry in see countries: Evidence from nonlinear ARDL model	2021	Romanian Journal of Economic Forecasting	Despite relatively strong output growth in recent years, unemployment in many South-eastern European (SEE) countries remains high and persistent. The common assumption of Okun's law symmetry, i.e., that expansions and contractions in output exert the same absolute effect on unemployment, could hardly offer any additional knowledge about this poor employment content of economic growth. Therefore, this study focuses on asymmetric effects in the unemployment-output relationship in SEE countries and its policy implications, employing a nonlinear ARDL approach (NARDL). The results reveal Okun's law asymmetry (either long-run or short-run) in five out of eight observed countries, indicating unemployment reaction is more pronounced in economic downswings than in upswings. Further analysis confirms that identifying the correct inherent characteristics of the unemployment-output trade-off could be useful for both structural policies (e.g., labor market reforms) and stabilization policies, especially in SEE transition economies. © 2021, Institute for Economic Forecasting. All rights reserved.	Initial effects	E

Gupta M.R., Dutta P.B.	Taxation, capital accumulation, environment and unemployment in an efficiency wage model	2021	Journal of Economics/ Zeitschrift fur Nationalokonomie	We develop an aggregate growth model with environmental pollution and unemployment equilibrium to be explained by efficiency wage hypothesis. Environmental quality is degraded due to emissions generated from production and is improved by abatement expenditure. The efficiency of a worker varies positively with its wage, unemployment rate and environmental quality. In the short-run equilibrium, an exogenous improvement in environmental quality given the capital stock lowers efficiency wage rate and unemployment rate but raises the rental rate on capital and the level of output; and an exogenous increase in capital stock given the environmental quality raises efficiency wage rate and level of output but lowers rental rate on capital and unemployment rate. Capital stock and environmental quality accumulate over time. A proportional tax is imposed on the rental income on capital to finance the abatement expenditure; and households' savings is invested. An increase in the tax rate raises the capital stock, national income and the environmental quality but lowers the unemployment rate in the long run equilibrium. © 2021, The Author(s), under exclusive licence to Springer-Verlag GmbH Austria, part of Springer Nature.	Policy maker effects	F
Isaev A.G.	Regional Aspects of Demand and Supply Shocks: Economy of the Khabarovsk Territory during a Pandemic [Региональные проявления шоков спроса и предложения: экономика Хабаровского края в период пандемии]	2021	Spatial Economics	The article provides an overview of the short-term dynamics of macroeconomic indicators for the Khabarovsk Territory during the COVID-19 pandemic after the introduction of temporary restrictive measures in April and May 2020. The impact of these measures extended both to the elements of regional aggregate demand and aggregate supply. From the point of view of the theory of short-run economic fluctuations, aggregate supply and demand shocks, such as those that occurred in the initial period of the pandemic, lead to a reduction in aggregate output followed by an increase in actual and natural rate of unemployment. Expectations have an additional negative impact since the growth of uncertainty gives rise to an increase in savings and an additional reduction in consumer activity. In the case of Khabarovsk Territory it is shown that the most affected industries of the economy were retail trade and services. Both industries experienced a negative shock in April, but while the former began recovery as early as May, the latter returned to the growth trajectory only in June. Residents changed their income usage patterns due to the restrictions on the consumer market, as well as to increased uncertainty about their future income. The share of net savings and cash balances increased with a corresponding decrease in the share of spending on goods and services. A negative supply shock contributed to a sharp rise in unemployment up to 24.5 thousand unemployed in the third quarter of 2020. Starting from the fourth quarter unemployment began to decline rapidly, but it had not reached pre-pandemic level of less than 7 thousand unemployed by the second quarter of 2021. It is shown that the permanent population outmigration, which increased in 2020, is a specific feature of the regional labor market. It has slowed down the return of the regional aggregate supply to its pre-pandemic positions after the restrictions were cancelled. © Кулецкая Л.Е., 2021	Policy maker effects	E
Popescu M.E., Stanila L., Gatea A.-M., Cristescu A.	Labour market dynamics and changes in fiscal and wage policies in Romania	2021	IBIMA Business Review	In the context of the COVID-19 pandemic outbreak, fiscal policies become essential in combating the crisis effects on both the labour market and the business sector. Thus, finding the most effective fiscal policy solutions to ensure a smoother economic recovery from the pandemic effects becomes a major concern worldwide. As compared to more developed countries, developing economies tend to have harder and usually longer recovery periods from economic crises. Therefore, this paper aims to study the changes in fiscal policies in correlation with the evolutions and transformations of the labour market for a case of a developing country. Evidence for the case of Romania is provided, where labour force participation is very low and youth unemployment is among the highest in Europe. This paper discusses the national legislative framework of fiscal policies and the recent labour market changes. Forecasts of moderate levels of economic growth are radically changed following the outbreak of the COVID-19 pandemic in early 2020. Copyright © 2021. Madalina Ecaterina POPESCU, Larisa STANILA, Ana-Maria GATEA and Amalia CRISTESCU. Distributed under Creative Commons Attribution 4.0 International CC-BY 4.0	Policy maker effects	A+E

Bal-Domańska B.	The impact of macroeconomic and structural factors on the unemployment of young women and men	2021	Economic Change and Restructuring	The presented article follows the research mainstream of econometric analyses focused on the assessment of correlations between youth unemployment rate and market and macroeconomic determinants, including economic growth and productivity of the economy, its structure in terms of NACE Rev.2 sections as well as the labor market tools. The research addresses 28 European Union (EU) countries. The analysis period covers the years 2008–2018. The econometric methods dedicated to panel data were used. The research results confirm the importance of the general economic condition as well as the development of knowledge-based economy for the improvement of the youth situation in the labor market. With regard to the economy structure, the development of manufacturing section importance turned out to be a major factor in female youth unemployment rate reduction. The growing importance of the construction sector translated into a decline in the unemployment rate among young men. © 2021, The Author(s).	Labour market institutions and bargaining structure	F+E
Alshyab N., Sandri S., Daradkah D.	The effect of financial inclusion on unemployment reduction - Evidence from non-oil producing Arab countries	2021	International Journal of Business Performance Management	The non-oil producing Arab countries of the Middle East and North Africa are suffering from chronic high unemployment rates, especially among the youth. The availability of affordable and secure financial services is considered as one of the pillars for generating economic growth, stimulating job creation and reducing unemployment. This study investigates the link between financial inclusion and unemployment in non-oil exporting Arab countries. This is done via estimating an index for financial inclusion from 2008 to 2018 for Egypt, Jordan, Lebanon, Morocco, and Tunisia based on the methodology developed by Sarma. The estimated index reveals an overall average-to-low level of financial inclusion. The effect of financial inclusion on unemployment is then tested based on a modified version of Okun's law. The results of a random effect model reveal a significant negative effect both of financial inclusion and of real output growth on unemployment. © 2021 Inderscience Enterprises Ltd.	Financial markets and Banking sector effects	E
Doroshenko Y.A., Starikova M.S., Riapukhina V.N.	Models of regional development in russia: Level of industrialisation and innovative performance	2021	Engineering Economics	The growth in the share of industry in the structure of Gross Domestic Product due to an increase in its competitiveness, causes a multiplier effect of accelerating economic growth, reducing unemployment and developing social and transport infrastructure. All these imperatives actualise the task of deepening the analysis of the level of industrialisation and innovative performance of the national economy and its regions. To achieve this goal, a theoretical analysis of the relationship between industrial growth and innovation activity was carried out, and the problems of industrial growth of the Russian economy were identified. The proposed toolkit is based on assessing the level of industrialization and innovative performance of the region. Based on their comparison, four models of industrial and innovative development are distinguished: model of non-industrial development, model of post-industrial development, model of neo-industrial development, and model of industrial development. According to the results of the study, the structure of Russian regions by the type of industrial-innovative development model is relatively stable and insufficiently progressive. Only a third of the regions have high innovative performance. The lack of the required balance between the development of industrial potential and the innovative productivity of Russian regions is associated with the low efficiency of the applied industrial policy measures. The research results can be useful for assessing the quality of industrial growth of regions in countries with transitional economies. © 2021, Kauno Technologijos Universitetas. All rights reserved.	Structure change, productivity growth, education and training	F+E
Liotti G.	Labour Market Regulation and Youth Unemployment in the EU-28	2021	Italian Economic Journal	The rise of youth unemployment has been one of the most serious problems which policymakers have had to deal with over the last two decades. Neoclassical economic theory suggests that the deregulation (i.e. higher flexibility) of the labour market stimulates firms to hire young people and—therefore—reduces youth unemployment. The aim of this study is to empirically test the validity of this hypothesis, analysing data on youth unemployment and labour market regulation index (LMRI) for 28 European countries in the period between 2000 and 2018. The empirical results—using two different econometric techniques (time and fixed effects that allows to take into account the presence of heterogeneity of countries in the model and pooling mean group (PMG) estimator providing results about the short and long run relationship between LMRI and youth unemployment)—do not provide evidence in support of the neoclassical hypothesis. In particular, the effect of higher flexibility of the labour market is negative and statistically significant (at 1%) only when a dummy variable for the Eastern country group is included in the model. Vice-versa, the paper shows that higher economic growth and higher investment	Labour market institutions and bargaining structure	E

Louail B., Benarous D.	Relationship between economic growth and unemployment rates in the algerian economy: Application of Okun's law during 1991-2019	2021	Organizations and Markets in Emerging Economies	This paper aims to examine the Algerian economy by applying Okun's law to study the impact of real GDP on unemployment rates and examine the impact of labour market protection policies on Okun's coefficients. The annual data on the Algerian economy for the period 1991-2019 were used. The autoregressive distributed lag (ARDL) bounds testing technique model was used in conjunction with the gap version for Okun's coefficients. The empirical results show that Okun's law operates in Algeria's economy. Coefficients estimated using the gap version led to the conclusion that there was a negative and significant impact of the GDP gap on unemployment rates. Though there was a decline in unemployment as GDP increased, the rise in employment was very weak for each 1% increase in the GDP. These findings should be of significant interest to regulators and policymakers in the Algerian economy, practitioners and academic researchers, international and national investors, managers and any other groups interested in the labour market in the Algerian economy and the labour markets of other developing economies. The paper provides the real GDP's effect on unemployment rates in Algeria by releasing the gap version for Okun's coefficient. Also, it provides evidence that increased labour market protection mitigates the adverse effects of a decrease in output growth rate on employment. © 2021 Bilal Louail, Djamel Benarous.	Initial effects	F+E
Jafrin N., Mahi M., Masud M.M., Ghosh D.	Demographic dividend and economic growth in emerging economies: fresh evidence from the SAARC countries	2021	International Journal of Social Economics	Purpose: The study attempts to establish the relationship between demographic dividend and GDP growth rate by utilising panel data from 1990 to 2017 in Bangladesh, India, Pakistan, Nepal and Sri Lanka. Design/methodology/approach: This study employs the pooled OLS model, using data from the World Bank's database for the period 1990–2017 for five selected South Asia Association for Regional Cooperation (SAARC) countries. Findings: The results reveal that demographic dividend affects economic growth in Bangladesh, India, Nepal, Sri Lanka and Pakistan, thereby supporting the demographic dividend hypothesis. For the country-specific analysis, it was also observed that demographic dividend impacts the economic growth of the five SAARC countries. In addition, growth of gross capital formation is highly significant for both aggregated and country-specific analyses. However, economic growth is unaffected by trade openness and unemployment rates. Moreover, the rate of labour force participation is negatively related to the GDP growth rate in the aggregated model. Originality/value: This paper bestows insight into the fact that the impact of demographic dividend on the economic growth of the SAARC regions cannot be fully actualised if the workforce are underutilised. This region needs to adopt appropriate policies to strengthen the considerable benefits of demographic dividend on the economic growth. © 2021, Emerald Publishing Limited.	Other effects	E
Arestis P., Ferreiro J., Gómez C.	Labour market flexibilization and income distribution in europe	2021	Panoeconomicus	Summary: This paper analyses the role played by the flexibilization of labour markets on functional income distribution. Specifically, we analyse whether employment protection legislation affects the evolution of labour income share, measured by the size of compensation of employees as a percentage of GDP, the sum of wages and salaries as a percentage of GDP and the size of the ad-justed wage share, in twenty European economies. Our study's results show that the evolution of labour income share is explained by the economic growth, the growth of employment and unemployment rates, and the growth of real wages. Regarding the role played by the flexibility of the labour market, and specifically of the employment protection legislation, only employment protection for temporary workers has a significant impact on the evolution of labour shares. Our results show that stricter provisions on the use of fixed-term and temporary agency contracts have a positive impact on the growth of labour shares. © 2021, Savez Ekonomista Vojvodine. All rights reserved.	Labour market institutions and bargaining structure	E

					Policy maker effects	
Rahman M.N.	DYNAMICS OF FOREIGN DIRECT INVESTMENT IN SAUDI ARABIAN ECONOMY	2021	Academy of Entrepreneurship Journal	The present research paper is to investigate the futuristic dynamics of resurgence of the economy of Saudi Arabia in the wake of the introduction of Foreign Direct Investment (FDI) creating high impact particularly on GCC countries and generally on the world. It is strongly believed among the economists of the world that FDI is the irreversible impact of globalization and liberalization in the 21st Century. It goes without saying that the impact of FDI can be measured through the economics tools. Rather than while dealing with this subject, other factors also affect the behavior of economic dividends in the process of implement the FDI especially infrastructure of the country, geo-political position of the country and its clout over the world's financial institutions apart from domestic governance of the country. The very FDI plays a very significant role in ensuring the behavior of Gross Domestic Product (GDP) of the country, taking the country towards trade surplus destination and removing unemployment by creating jobs. The main conclusion of the study sheds light over the inflow of FDI and determining the GDP and taking Saudi Arabia towards balanced trade players in the world. © 2021. All Rights Reserved.	Policy maker effects	A
Khan N.	Does Inflation Targeting Really Promote Economic Growth?	2021	Review of Political Economy	Inflation targeting, as a monetary-policy framework, is said to promote economic growth. Yet, when evaluating the macroeconomic performance of inflation-targeting regime, the existing literature only emphasizes the dynamics of inflation and the costs associated with taming inflation. There is hardly any assessment of the growth claim. To fill the gap and to measure the causal impact of inflation-targeting adoption on economic growth, we compare the dynamics of output growth and long-term unemployment between countries that have adopted inflation targeting and the non-adopting countries. Our findings seem to refute the growth claim, and paint a bleak picture of inflation targeting: when compared to the countries that did not adopt inflation targeting, there is a significant reduction in the average growth rate among the inflation-targeting adopters by over ½ percentage point. Additionally, long-term unemployment significantly rises among the inflation-targeting countries by over 1½ percentage points as compared to the non-adopters. These results are robust to both the exclusion of the outlier observations and to the sensitivity tests recommended for such analysis. © 2021 Informa UK Limited, trading as Taylor & Francis Group.	Policy maker effects	F+E
Usoskin V.M.	Covid-19 pandemic: World central banks' reactions to economic downturn	2021	World Economy and International Relations	Measures to mitigate the effects of the COVID-19 pandemic on households and businesses taken by Western governments in 2020 had serious negative consequences for the global economy. There was a widespread fall of production and trade, the closure of enterprises and stagnation of entire industries, sharp increase in unemployment, rise of uncertainty and risks. In an effort to slow the development of economic downturn the central banks and the Treasuries had taken wide range of monetary measures. Some of which were the continuation of the programs initiated during the period of global financial crisis of 2007–2009 and adapted to the current economic situation and the others represented new programs for the purchase of financial assets and granting credit facilities to enterprises and households. These actions, aimed primarily at the issue of additional quantities of money into the circulation, were distinguished by very large scale and high speed of decision-making. The author's analysis led to a conclusion that the monetary policy during COVID-19 pandemic helped to stabilize financial markets, preserved the activities of a part of small and medium-sized enterprises and improved employment in the labor market. At the same time, massive "quantitative easing" operations increased the risk of financial instability and the likelihood of emerging of difficult-to-control inflationary spiral in Western economies. As to the achievement of strategic goals of monetary policy in the macroeconomic sphere, the success was much less noticeable due to the influence of many nonmonetary factors on the level of employment and the rate of economic growth. © 2021, Russian Academy of Sciences. All rights reserved.	Policy maker effects	A+E

Karadzic V., Backovic T., Streimikis J.	Relevance of okun's law in Montenegro	2021	Montenegrin Journal of Economics	The purpose of this paper is to examine whether the Okun's law is valid in case of Montenegro. This paper investigates short-term and long-term relationships between uneployment rate and economic growth in Montenegro with the goal to estimate the Okun's coefficient. In this reserach Okun's law was tested by implementing the first difference model.The analysis has been carried out according to standard econometric methodology considering static and dynamic regression model specifications. In the first part of the analysis, the two analyzed series are tested for stationary and co-integration and then the classical linear regression model was estimated. In the second part of the analysis the Error Correction Method (ECM) was applied, which in addition to quantifying the relationship between the unemployment rate and the economic growth rate, also enables the unemployment rate forecasting. The key finding of this paper is that the value of unemployment rate will decrease by 0.275534% in short term and by 1.46794% in long term for every 1% increase in economic growth rate. This implies that the Okun's low is valid in Montenegro. © 2021, Economic Laboratory for Transition Research. All rights reserved.	Initial effects	E
Prasetyo P.E., Kistanti N.R.	Human capital, institutional economics and entrepreneurship as a driver for quality & sustainable economic growth	2020	Entrepreneurship and Sustainability Issues	The Indonesian government policy in encouraging sustainable economic growth to reduce unemployment, poverty and inequality is threatened to fail, because economic growth does not reach targets and is not of quality. The purpose of this research is to explain the four pillars of growth and development namely; human capital, social capital, institutional economics and entrepreneurship as the main drivers of quality and sustainable economic growth. This research method used primary data on entrepreneurship and SMEs in the provinces of Central Java and Yogyakarta. The correlational form of recursive model path analysis was used as analytical method. The research results show the very strong role of human capital as the main key in driving economic growth both directly and indirectly. The existence of human capital and social capital will further encourage new economic institutions, furthermore new economic institutions will encourage the competitiveness of productive entrepreneurship and high, quality, and sustainable regional economic growth. The policy implication is that high, quality, and fundamentally sustainable economic growth must be built on the four main pillars basis namely; human capital, social capital, institutional and entrepreneurship in order to be more successful in reducing development problems; unemployment, poverty and income inequality. © 2020, Entrepreneurship and Sustainability Center. All rights reserved.	Structure change, productivity growth, education and training	F+E
Fontanari C., Palumbo A., Salvatori C.	Potential Output in Theory and Practice: A Revision and Update of Okun's Original Method	2020	Structural Change and Economic Dynamics	This paper challenges the mainstream view of potential output and enquires into the supposed effects of Great Recession on potential growth. We identify in the demand-led growth perspective a more promising theoretical framework both to define the notion of potential output and to gauge the long-term effects of a demand slow down. In view of the poor reliability of standard estimates of potential output, we also propose an alternative calculation. This is based on an update of Arthur M. Okun's original method for potential output estimation, which, differently from the estimation methods currently in use, does not rely on the notion of NAIRU, thus being immune to its theoretical and empirical shortcomings. Our calculation, based on a re-estimation of Okun's Law on US quarterly data, shows both how far an economy generally operates from its production possibilities, and how much potential growth is affected by the actual growth of demand over time. These wide margins for expansion of actual and potential output growth imply that a determined policy of demand expansion would create, given time, the very capacity that justifies it. © 2020 Elsevier B.V.	Initial effects	F+E
Vekic A., Djakovic V., Borocki J., Sroka W., Popp J., Olàh J.	The importance of academic new ventures for sustainable regional development	2020	Amfiteatru Economic	Establishment of new entrepreneurial ventures have a direct influence on economic growth of the economy and society of every country. It relates especially to unemployment level and net income of the employees. Given these facts, the two aims of the paper are: 1) presentation of the Innovativeness of 14 countries of South-East Europe region and two additional countries: Poland and Hungary based on their overall ranking(s) as well as Information and Communication Technologies, ICT access and ICT use; and 2) to present development and business performance of academic start-up and spin-off companies in ICT sector which were created by the University of Novi Sad (Serbia) and which allowed it to become a sustainable University. The indicators such as total number of new ventures, number of employees, total revenue and average gross profit margin were used in order to analyse establishment, development and sustainability of academic ICT start-up and spin-off companies. The study shows	Entrepreneurial activity effects	A+E

				that sustainable measures, particularly academic start-up and spin-off companies, have a very important role in sustainable economic growth (local, national and regional) and are a significant driver of innovation. They are of key importance for the sustainable development of the University. © 2020 Japan Society of Plasma Science and Nuclear Fusion Research.		
Pasara M.T., Garidzirai R.	Causality effects among gross capital formation, unemployme nt and economic growth in South Africa	2020	Economies	Stagnant economic growth, decreasing investment and high unemployment remain consistent macroeconomic challenges for South Africa. Gross Capital formation (GCF) is designed to improve employment and economic growth (GDP). This study investigates the causality effects of the three variables using time series data from 1980 to 2018 in a Vector Autoregressive (VAR) framework. Results of the first model reveal a positive long-term relationship between gross capital formation GCF and economic growth GDP. Contrariwise, the first model indicates that unemployment (UNEMP) does not influence economic growth (GDP) in the short run. The second model results reveal a significant and positive relationship between UNEMP and GCF, while the third model shows an inverse relationship between GDP and UNEMP. Based on these findings, the study therefore recommends that fiscal authorities introduce expansionary fiscal policy that stimulates economic growth, investment and employment. © 2020 by the authors.	Policy maker effects	E
Ahuja D., Pandit D.	Public Expenditure and Economic Growth: Evidence from the Developing Countries	2020	FIIB Business Review	Regardless of theoretical grounds that presumed a positive relationship between government spending and economic growth, the extant research on this nexus is inclusive. This article re-examines the relationship between public expenditure and economic growth using more copious panel data set covering 59 countries in 1990–2019. Our empirical results confirm the unidirectional causality between economic growth and government expenditure where the causation runs between public spending and GDP growth. The results at large support the Keynesian framework that asserts the importance of government expenditure in stimulating economic growth. Further, the analysis reveals that after considering all the control variables such as trade accessibility, investment and inflation public spending positively affects economic growth. With regards to control variables, it was found that investment has a significant and positive bearing on economic growth. Evidence from the regression estimates further displays that trade openness encourages evolution in developing countries. However, population growth and unemployment have a detrimental effect on economic growth. © 2020 Fortune Institute of International Business.	Policy maker effects	E
Musara M., Mabila T., Gwaindepi C., Dhoro N.L.	Entrepreneur ial activity for economic growth and unemployme nt reduction in South Africa	2020	International Journal of Entrepreneurship	South Africa continues to grapple with the challenges of low entrepreneurial activity, low economic growth, and high unemployment, in company with poverty and inequality. While extensive research has confirmed a correlation between entrepreneurial activity and economic growth in many countries, no published empirical evidence could be found to confirm this relationship in South Africa. To fill this gap, the present study extracted data on entrepreneurial activity from the Global Entrepreneurship Monitor reports for the period 2000/01 to 2016/17 and data on economic growth and unemployment from Statistics South Africa for the same period. A statistical descriptive analysis of the data showed a positive association between entrepreneurial activity, employment, and economic growth. These results suggest that prioritising endeavors to develop entrepreneurial skills and increase entrepreneurial activity could assist in achieving South Africa's much-needed improvement in economic growth and, consequently, also contributing to reduced unemployment, poverty and inequality. © 2020, Allied Business Academies. All rights reserved.	Entrepreneu rial activity effects	E

Okwu A.T., Oseni I.O., Obiakor R.T.	Does Foreign Direct Investment Enhance Economic Growth? Evidence from 30 Leading Global Economies	2020	Global Journal of Emerging Market Economies	Investment expenditure is a major component of aggregate macroeconomic variables in any economy, irrespective of the development status. This article employed relevant econometric methodology on panel data environment to analyze the effects of foreign direct investment (FDI) inflows on economic growth of 30 leading global economies during the period between 1998 and 2017. Other variables considered in the analysis were domestic credit to private sector (DCPS), gross fixed capital formation (GFCF), inflation–consumer prices index (INFPC), trade openness (TOPNESS), and youth unemployment (UEMPYT). The results showed mixed growth effects of the variables in general. Specifically, FDI exerted positive and significant effect on economic growth of the countries during the period. Therefore, this article concluded that FDI inflows enhanced economic growth and emphasized the need to foster more FDI-attracting policies as well as adequate GFCF to complement FDIs for sustainable economic growth potentials. JEL Classification: C23, C33, C51, F21, F43, O47. © 2020 Emerging Markets Forum, Washington DC.	Policy maker effects	F+E
Demiral M., Demiral O., Khoich A., Maidyrova A.	Empirical links between global value chains, trade and unemployment	2020	Montenegrin Journal of Economics	This study purposes to explore the determinants of unemployment in 35 countries distinguished between 18 developed and 17 developing countries over 12 years covering 2005-2016. Unlike the majority of the relevant literature, the study integrates different aspects of internal and external predictors of unemployment focusing on global value chains (GVCs) involvement. The study employs a panel regression analysis to estimate the relationships of unemployment with economic growth, government expenditure, inflation, human capital, population, industrialization, trade openness, and foreign direct investment flows. To what extent countries involve in GVCs are measured by the foreign value-added share of gross exports and domestic value-added share of gross imports. Empirical results show that it is yet hard to come to a global consensus about a common set of determinants of unemployment in a cross-country aspect. Moreover, the influences of internal and external factors tend to vary substantially across the development phases and structural changes of countries. Overall findings keep the debate about jobless export, the job-carrying function of foreign direct investment, employment gain from trade and trade in employment at the center of the unemployment agenda of both developed and developing countries. The study concludes with some discussions and implications of the evidence. © 2020, Economic Laboratory for Transition Research. All rights reserved.	Policy maker effects	E
Gu J.	Spatiotemporal dynamics of the patent race: empirical evidence from listed companies in China	2020	Asian Journal of Technology Innovation	This quantitative study was based on data from 910 Chinese listed companies, spanning from 2002 to 2017. It finds that the geographic distribution for patent competition is spatially dispersed from China's Southeast Coast to the Northwest. This demonstrates that companies in Western and Northern China are increasingly innovative. In terms of time, the number of patents that enterprises produce has trended upward since 2010, and patent competition among enterprises is intensifying. Moreover, there is a strategic interaction between neighbouring companies in patent competition. Invention patents have a positive spillover effect, while non-invention patents have a negative spillover effect. This study also shows that the larger the scale of the enterprise and the higher its operating income, the more patents it has. The influence of enterprise age on total patents and invention patents is inversely related. Additionally, the more concentrated the company's equity, the fewer the patents, and the higher the industry concentration, the greater the number of patents. Further, regional economic growth has a positive effect on total patents, while the regional unemployment rate has a negative effect on invention patents. © KOSIME, ASIALICS, STEPI 2020.	Structure change, productivity growth, education and training	F+E
Roopchund R.	SMEs in Mauritius: Economic growth, employment and entrepreneurial culture	2020	International Journal of Entrepreneurship and Small Business	The present research seeks to analyse the contribution of SMEs to the Mauritian economy. There are around 124,000 SMEs operating in different business sectors in our economy. The Ministry of Business, Enterprise and Cooperatives of Mauritius launched a ten year plan in 2016 for the Small and Medium Enterprises so as to boost up economic growth and development. The research relies on existing statistics and also makes reference to some of the government and private firms' surveys carried out recently for the SME sector. The main objectives of the research are to link SME growth to macro-economic variables such as economic growth, unemployment and at the same time develop a better understanding of the causes of SME failures in Mauritius. The research also provides a description of the Mauritian entrepreneurial culture based on survey carried out by Mauritius Commercial Bank. Copyright © 2020 Inderscience Enterprises Ltd.	Entrepreneurial activity effects	A+E

Lastauskas P., Stakėnas J.	Labor market reforms and the monetary policy environment	2020	European Economic Review	Do labor market reforms initiated in periods of loose monetary policy yield different outcomes from those that were introduced in periods when monetary tightening prevailed? The answer to this question is a firm, yes. We document the vital role of accommodative monetary policy for an increase in unemployment benefits, spending on active labor market policies, and labor market deregulation to boost growth and reduce unemployment. It was found that if interest rates cannot be reduced, then unemployment benefits should be lowered. A more rigid labor market, it was futher found, can deliver expansionary effects, especially during the crisis period. © 2020	Labour market institutions and bargaining structure	E
Salim A., Rustam A., Haeruddin H., Asriati A., Putra A.H.P.K.	Economic strategy: Correlation between macro and microeconomics on income inequality in Indonesia	2020	Journal of Asian Finance, Economics and Business	This study sees a critical gap in the previous body of research, which it seeks to fill; the disclosure of the unemployment ratio correlation has only been measured by the level of economic growth. This study is to add investment variables and government expenditure variables that objectively aim to measure the level of effectiveness in handling the unemployment ratio, which is then a measurement of the effectiveness of unemployment. Economic growth is measured by its impact on income inequality through empirical, conceptual relationships as a critical review and economic strategy for the future. The research uses secondary data on Indonesian macro and microeconomics since 2003-2018, then testing uses a quantitative approach to correlation, regression, and scatterplot. The results of this study show correlations between variables, and volatiles on the graphs show a similar trend. In other words, variables are bound together and support each other. The strategy of prioritizing the scale of government expenditure and investment to reach the target is the primary concern, so that the economic cycle can be optimal and equipped to face the possibility of an economic recession in the future. Many factors cause complex income inequality, though investment does not show a correlation to income inequality. © The Author(s).	Policy maker effects	F+E
Huang G., Huang H.-C., Liu X., Zhang J.	Endogeneity in Okun's law	2020	Applied Economics Letters	This article contributes to the literature of Okun's law by addressing an under-noticed but important problem, i.e. endogeneity. By using annual variation in the international oil price weighted with countries' average oil net-export GDP ratios as a plausibly exogenous instrumental variable for economic growth, the two-stage least squares estimates indicate that faster real GDP growth is associated with lower overall, male and female unemployment rates, confirming the validity of Okun's law. According to our benchmark estimate, 1 percentage point increase in economic growth leads to a 0.252 percentage point decrease in civil unemployment rate. © 2019, © 2019 Informa UK Limited, trading as Taylor & Francis Group.	Initial effects	F+E
Ciżkowicz P., Radzikowski B., Rzońca A., Wojciechowski W.	Fiscal devaluation and economic activity in the EU	2020	Economic Modelling	In the aftermath of the global financial crisis, a fiscal devaluation (hereafter, FD), understood as a shift in taxation from labour to consumption, has been debated as a possible tool for restoring competitiveness, particularly in peripheral countries of the Eurozone. We contribute to this debate. Based on a set of panel and spatial panel models for the EU 27 over the period 1995–2014, we find that FD works, especially where economic activity is heavily subdued and in sectors more exposed on external competition. FD increases value added in exports, improves net exports, accelerates GDP and employment growth, and decelerates growth in labour costs. These effects are nonlinear; they are stronger in the members of the Eurozone and weaker in countries with either more coordinated or more centralised wage bargaining processes or more generous unemployment benefits. The magnitude of these effects is dampened by strict regulatory barriers: they are weaker in countries with higher barriers to entrepreneurship, trade and investment. Most importantly, FD is not a beggar thy neighbour policy, at least in the EU. In our sample, the aggregate demand ('cooperative') effect of unilateral FD, which is beneficial for neighbouring countries, outweighs by far the expenditure switching ('competitive') effect, which comes at the expense of other countries' competitiveness. FD implemented in one country can benefit other countries, provided that they are strongly integrated in global value chains. These findings are robust to changes in the estimation methods, the sample composition, the set of explanatory variables and the selection of a spatial weight matrix. © 2019 Elsevier B.V.	Policy maker effects	F+E

Alheet A.F., Hamdan Y.	Evaluating innovation-driven economic growth: A case of Jordan	2020	Entrepreneurship and Sustainability Issues	The aim of the research was to examine the role of innovation in promoting economic growth in Jordan. Innovation is a key factor for businesses and a significant element of growth. However, in the case of promoting economic growth, its significance differs in terms of region and countries. To explore the innovation-growth link, the study adopted a quantitative approach, using Jordan's macroeconomic data of 18 years (2000-2017). The data was collected from secondary sources using the World Bank database. It was found in the research that the progress in Jordan in relation to technology and innovation does not contribute to GDP growth. Internet penetration in Jordan increased, but GDP saw a persistent decline. However, patent applications (non-residents) has a significant impact on reducing unemployment in the country. Thus, it is recommended to focus more on innovation in the form of promoting patents to reduce unemployment and propel growth in the country. © 2020 by author(s) and VsI Entrepreneurship and Sustainability Center.	Structure change, productivity growth, education and training	F+E
Şerban A.C., Aceleanu M.I., Dospinescu A.S., Ţîrcă D.-M., Novo-Corti I.	The impact of eu immigration on economic growth through the skill composition channel	2020	Technological and Economic Development of Economy	The paper aims to examine the new trends of immigration and their implications on the economy of the host country, particularly on economic growth and unemployment. As the effects of aging population can be felt in many countries, especially in developed ones, migration will continue to play an increasing role in the economic growth of all countries, either sending or receiving. Given the changes in migration trends and migration policies, the impact of the process should be revised. One of the main characteristics that significantly impacts economic growth is the education and skill level of immigrants. In the light of this fact, the research aims to identify the impact of immigration on growth through the skill composition channel. We analyzed the impact of skilled and unskilled immigration on growth, also including the unemployment rate as a relevant factor for the labour market. We estimated six dynamic panel models using the system of generalised method of moments (GMM) to take into account the risk of an endogeneity bias of the migration variables. The results indicate a positive and significant effect of skilled immigration on the economic growth of the receiving country. The results also point to a 1.3 percent β-convergence rate consistent with the values found in the convergence literature which are around 2 percent. © 2020 The Author(s). Published by VGTU Press.	Migration and Brain Drain	F+E
Pjanić M., Milenković N., Andrašić J., Kalaš B., Mirović V.	Public debt's predictors in EU: evidence from members and non-members of European Monetary Union	2020	Economic Research-Ekonomska Istrazivanja	The global economic crisis destabilised the public debt of many countries. The purpose of this paper is to investigate the predictors of public debt in European Union countries divided into non-member countries and members of the European Monetary Union in the period from 2001 to 2018. The aim is to discover their relationship with public debt and make recommendations for economic policy-makers. The empirical analysis was based on comparative research design, quantitative methodology and secondary data collection. It included 13 variables, with public debt being the dependent variable and the selected 12 economic indicators were treated as predictors. The analysis was based on a procedure for linear mixed models in the IBM SPSS. The basic finding was that only unemployment was statistically significant predictor of public debt in both groups of countries. Other predictors differed, and there were statistically significant differences in the magnitude of their impacts. Obtained results indicate that unemployment is one of the most important problems of all European Union countries. In addition, a major challenge for monetary and fiscal policy-makers will be profiling adequate tax, credit, and interest rate policies to reduce debt and accelerate economic growth. © 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.	Policy maker effects	F+E
Arestis P., Ferreiro J., Gómez C.	Employment protection legislation and labour income shares in Europe	2020	Panoeconomicus	The paper analyses the determinant elements of the evolution of labour income share, measured by the size of compensation of employees as a percentage of GDP in twenty European economies. In doing so, special attention is paid to the impact of employment protection legislation. Our study's results show that the evolution of labour income share is explained by the economic growth, the growth of employment and unemployment rates, and the growth of real wages. Regarding employment protection, only employment protection for temporary workers matters. Our results shows that stricter provisions on the use of fixed-term and temporary agency contracts have a positive impact on the growth of the labour shares. © 2020, Savez Ekonomista Vojvodine. All rights reserved.	Labour market institutions and bargaining structure	F+E

Brecher R.A., Gross T.	Unemployment and income-distribution effects of economic growth: A minimum-wage analysis with optimal saving	2020	International Journal of Economic Theory	Theoretically and numerically, we analyze the unemployment and income-distribution effects of economic growth, in a model with optimal saving (investment) and a minimum wage for unskilled labor. Within this three-factor model (including skilled labor), an exogenous rise in the growth rate increases unemployment if capital and unskilled labor are complements (versus substitutes), implying a tradeoff between (faster) growth and (lower) unemployment. We also show how the growth rate affects the skill premium and factor shares of national income, providing little support for Piketty's controversial thesis that capital's share is higher when growth is slower. © IAET	Policy maker effects	F
Daňová M., Vozárová I.K.	Regional disparities in the relationship between economic growth and unemployment	2020	Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration	The imbalance of the economic and social level between territorial units is a problem of many countries, including Slovakia. In addition to product losses, the absence of labour incomes of lagging territorial units and their reduced ability to develop independently appear to be a problem. The reason for such a situation may be low economic activity as well as a weak relationship between employment in some regions. The aim of this study is to identify differences in the relationship between the rate of economic growth and changes in the unemployment rate in the all regions at the NUTS3 level in Slovakia in the period 1999-2018. To examine the relationship between unemployment and the rate of economic growth, a difference version of Okun's Law was used. A simple linear regression model was constructed for each region at NUTS 3 level. By comparing the values of constructed econometric models, the regional differences and sources of these differences were identified. The results of the analyses have indicated that there is a direct causal relationship between the change in unemployment and the rate of economic growth in the short term. The correlation coefficients confirmed the negative relationship between GDP growth rate and unemployment. The strength of the relationship across region at NUTS 3 level was differentiated, but in all NUTS 3 regions was statistically significant. The impact of the growth rate on changes in unemployment has been found to be differentiated mainly according to the size of unemployment, as well as the sources and stability of the rate of economic growth and the structure of economic activities. © The Author(s) 2020.	Initial effects	E
Mihi-Ramirez A., Melchor-Ferrer E., Sobieraj J.	Integration and productivity of labor factor in Europe. Perspective from nationality and the attainment level	2020	Engineering Economics	Productivity in Europe remains stagnant over a long period of time for several reasons: structural barriers hampering proper development and the diffusion of innovations; and also due to high structural unemployment. This puts a significant brake on growth and competitiveness. A high-potential alternative for improving productivity lies in increasing labour participation and the attraction/retention of talent as a result of European integration. Therefore, this study examines how economic growth is affected by labour productivity and the local and foreign workers' employment rates, as well as their level of achievement. Using the Durbin Spatial Model (DSM), we analyse OECD data from 13 European countries covering the period 2000-2017. Our results confirm, first of all, that there has been a positive convergence among European countries and that it is of considerable benefit for the growth of countries with different levels of development. In terms of labour productivity, it positively influences economic growth, especially for highly skilled local workers. Moreover, it is confirmed that increased participation has a statistically significant impact on each country's growth rate in the studied sample. In terms of educational levels, an increase in the number of workers with a high and medium level of education entails a growth that is also transferred to neighbouring countries. Also, these types of strategies serve to create conditions that allow for attracting and retaining talent in the long term, which also generates positive effects on growth itself, but also for neighbouring countries in the same area of integration. © 2020, Kauno Technologijos Universitetas. All rights reserved.	Labour market institutions and bargaining structure	E

Butkus M., Matuzeviciute K., Rupliene D., Seputiene J.	Does unemployment responsiveness to output change depend on age, gender, education, and the phase of the business cycle?	2020	Economies	The impact of economic growth on unemployment is commonly agreed and extensively studied. However, how age and gender shape this relationship is not as well explored, while there is an absence of research on whether education plays a role. We apply Okun's law, aiming to estimate age-, gender-and educational attainment level-specific unemployment rate sensitivity to cyclical output fluctuations. Since the empirical literature provides evidence in favour of the non-linear impact of output change on the unemployment rate, supporting higher effects of recessions than that of expansions, we aim to enrich this analysis by estimating how the impact of positive/negative output change on the specific unemployment rate varies with the level of the total unemployment. The analysis is based on 28 European Union (EU) countries and covers the period of 1995–2019. The equations are estimated by least-squares dummy variables (LSDV), using Prais–Winsten standard errors. For the robustness check, we alternatively used Newey–West standard errors to address serial-correlations and heteroscedasticity, and the Arellano–Bond estimator for some specifications that assume dynamics in the panel. The results support previous findings of male-and youth-specific Okun's coefficients and reveal that they significantly stand out just over the periods of negative output change. Additionally, we find that educational attainment level is an important factor explaining the heterogeneity of unemployment reaction to output change. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.	Initial effects	E
Erić O., Popović G., Bjelić J.	Analysis of Okun's Regularity: The Case of Bosnia and Herzegovina	2020	Economics	Economic growth, or, more precisely, GDP growth rate (Y) is the key macroeconomic indicator. Positive tendencies of GDP growth (r) mostly impact the economic welfare of the national economy. Hence, output is analysed in combination with other macroeconomic aggregates and indicators: investments, inflation, unemployment, trade exchange and the like. In the context of researching the relation between GDP trends and unemployment rate, A.M. Okun was the first to notice regularity between these variables. Okun's law shows the direction and strength of GDP changes under the influence of (un)employment and represents functional relation between the output market and labour market. This paper aims to prove that, to a certain extent, there exists Okun's regularity in Bosnian and Herzegovinian economy for the period of 2000-2019. The results of linear regression analysis show that there is negative correlation (R=0,451) between variables Y (output) and X (unemployment). Determination coefficient R2 = 0,204 indicates that 20,4% variations in GDP is determined by the changes in unemployment. Coefficient β in linear regression equation is negative, amounting to -0,596, which means that a change in unemployment by 1 percentile point brings about an inverse change in GDP by approximately 0,6 units. Variable direction indicates that there exists Okun's regularity, though with significantly weaker intensity among the variables. This proves the hypothesis that there is a negative functional relation between the output market and labour market in Bosnia and Herzegovina. © 2020 Ognjen Erić et al., published by Sciendo 2020.	Initial effects	E
Martellini P., Menzio G.	Declining search frictions, unemployment, and growth	2020	Journal of Political Economy	For a search-theoretic model of the labor market, we seek conditions for the existence of a balanced growth path (BGP), where unemployment, vacancy, and worker's transitions rates remain constant in the face of improvements in the production and search technologies. A BGP exists iff firm-worker matches are inspection goods and the quality of a match is drawn from a Pareto distribution. Declining search frictions contribute to growth with an intensity determined by the tail coefficient of the Pareto distribution. We develop a strategy to measure the rate of decline of search frictions and their contribution to growth. © 2020 by The University of Chicago. All rights reserved.	Labour market institutions and bargaining structure	F

Authors	Title	Year	Journal	Abstract	Keywords	Code
Azimkhan A., Yesentemirov A., Salimzhanova B., Aidashev M., Aitzhanova D., Taskinbaikyzy Z., Mukhametzhanov a D., Kurmanalina A.	Impact of Small and Medium-Sized Entrepreneur ship on Employment in Kazakhstan	2020	Academy of Entrepreneurship Journal	Nowadays, small and medium-sized entrepreneurship (SME) play a key role in the development of the national economy of Kazakhstan. In 2019, there were over 1.2 million small and medium-sized enterprises in Kazakhstan. The majority of SME are active in distributive trades and real estate, renting & business activity, followed by construction, manufacturing, and transport & communication. The SME have many contributions to make labor-intensive and more often self-proprietary, comparatively improved levels of efficiency and better income distribution, has a potent socio-economic imperative for the country, and disseminates broadly the benefits of economic growth. However, there is a debate that either SME can solve the problem of unemployment and in particular, so far there is little information available on the impact of entrepreneurship on employment in Kazakhstan. The objective of this manuscript is to fill this information gap by investigating the entrepreneurship impact on employment by applying regression analysis. A model of regression analysis was considered most appropriate for the data analysis of the study used. The use of regression analysis results from the fact that it will enable the study to test the influence of independent variables on the dependent variable and to ascertain the rate of change in the dependent variable as determined by an increase or decrease in the independent variables. The results of the regression analysis revealed that there is a positive relationship between SME and unemployment reduction. This manuscript may be beneficial for practitioners and academicians. Examining the entrepreneurship impact on employment tends to raise or provide some useful insights into some theoretical issues on one hand. On the other hand, it raises some practical implications for policy makers in the government. © 2020, Academy of Entrepreneurship Journal. All Rights Reserved.	Entrepreneurial activity effects	E
Sabreen M., Behera D.K.	Changing Structure of Rural Employment in Bihar: Issues and Challenges	2020	Indian Journal of Labour Economics	In India, Bihar has been among the less developed states, but has been showing an impressive growth pattern in recent years. While Bihar's economic structure is changing, the pattern of labour employment is also presenting a shift from farm to non-farm sector. The share of the workforce employed in agriculture has declined from over 70% to around 40% between 2004 and 2017–2018, while the share of employment in industries and services has increased substantially. The growth of non-farm employment provides opportunities to contain the pressing unemployment problem which according to the current Periodic Labour Force Survey (PLFS) 2017–2018 report has recorded more than 7% of the unemployment rate (UR). The rural sector that constitutes a major portion of farm employment has also seen a growth of employment in the non-farm sector, though the rate of unemployment here has increased at a faster rate. While migration has been an important aspect of Bihar's economy, there is a need to provide employment in rural areas, particularly the rural non-farm sector that would directly affect the unemployment problem in urban centres. Thus, using the latest PLFS (2017–2018) data set, this paper provides a comprehensive analysis of the structural transformation in Bihar since bifurcation and more importantly the changing employment structure focus on rural areas. © 2020, Indian Society of Labour Economics.	Structure change, productivity growth, education and training	F+E
Shahabadi A., Salehi M., Hosseinidoust S.E.	The Impact of Competitiven ess on Brain Drain, GMM Panel Approach	2020	Journal of the Knowledge Economy	Brain drain is one of the challenges that many countries have been facing for ages and it is considered as one of the most damaging issues in the countries. So far, economists have always emphasized and focused on the factors affecting brain drain, including economic growth, quality of innovation, human capital, unemployment rate of graduates, institutional quality, intellectual property rights, economic, political and civil liberties, political and social environment, inequality, and so on. The study of each of them, in turn, explains the causes of brain drain. But along with these factors, the effect of the power of competitiveness on brain drain, which has recently been taken into consideration by international communities, has been neglected and there have not yet been comprehensive studies on it. While competitiveness as a factor of attraction can increase the motivation and welfare of the elites and it ultimately prevents the elites from leaving the country by employing them in different parts of the country. In this regard, the purpose of this study is to investigate the effect of competitiveness on brain drain from selected Islamic countries to the USA during the period from 2007 to 2015 using the Generalized Method of Moments (GMM). The results of this study showed that the competitiveness index has a negative and significant effect on brain drain. Additionally, the indexes of welfare gap and real wage gap have respectively positive, significant and positive, and insignificant relationships with brain drain in the studied countries. The variable of unemployment rate also has a positive and significant relationship with the brain drain. According to the findings of the study,	Migration and Brain Drain	F+E

				poor competitiveness in Islamic countries, which are mostly sending countries, is a repulsive factor that leads to a large exodus of elites from the above-mentioned countries. Therefore, it is suggested that politicians and managers of the Islamic countries pay more attention to the indicators of competitiveness in order to reduce the brain drain. © 2018, Springer Science+Business Media, LLC, part of Springer Nature.		
Kasnauskiene G., Palubinskaite J.	Impact of high-skilled migration to the UK on the source countries (EU8) economies	2020	Organizations and Markets in Emerging Economies	The majority of studies into the economic effects of high-skilled migration focus on aggregate impact on the economic output in the countries of destination. The economic impact of migration of the highly qualified on the economies of the countries of their origin has been examined less. This qualitative research aims to address that gap by identifying the economic effects of high-skilled migration on Central and Eastern Europe, the region which faces many long-term challenges to its economic development. We use the available data from the UK International Passenger Survey for the 2004-2016 period to test whether the outflow of highly qualified workers from the EU8 countries to the UK is detrimental or beneficial for the growth of sending economies in the short and long term. In order to test these hypotheses, econometric time series analysis methods of structural vector autoregression and cointegration were applied. Our results have shown a positive short-term effect of brain outflow on regions' GDP and wage growth as well as unemployment; on the other hand, we presented empirical evidence in support of the hypothesis of the negative long-term effect of high-skilled migration on EU8 countries' GDP and wage growth as well as unemployment. These results are fairly robust to imply that a negative view on high-skilled migration from EU8 is broadly consistent with the previous findings of "harmful brain drain"scholars. © 2020 Gindrute Kasnauskiene, Juste Palubinskaite. Published by Vilnius University Press.	Migration and Brain Drain	F+E
Krušković B.	Exchange Rate Targeting Versus Inflation Targeting: Empirical Analysis of the Impact on Employment and Economic Growth	2020	Journal of Central Banking Theory and Practice	This paper analyses the effects of two alternative monetary strategies (exchange rate targeting and inflation targeting) on economic growth and employment. On the panel of 18 countries for the period from 1996 to 2013, I tested the hypothesis that countries in exchange rate targeting have a higher rate of GDP growth and lower inflation rate. In order to test the impact of exchange rate policy on economic growth and prices, I applied dynamic panel two stepwise method of least squares (2SLS method) and they were evaluated by two independent regression equation. In order to allow the comparison of results related to exchange rate targeting, the effects of the introduction of inflation targeting in the unemployment rate were also estimated using the panel method two stepwise least squares (2SLS method). Results of empirical studies show that countries with inflation targeting have a lower rate of economic growth and higher unemployment. © 2020 Borivoje Krušković, published by Sciendo.	Policy maker effects	F+E

Chuttoo U.D.	Effect of Economic Growth on Unemployment and Validity of Okun's Law in Mauritius	2020	Global Journal of Emerging Market Economies	This study examines the relationship between unemployment and economic growth in Mauritius. The methodology adopted for this study is the autoregressive distributed lag (ARDL) bounds cointegration test, ARDL error-correction model (ARDL-ECM) using the ordinary least square (OLS) approach and Okun's law-gap version. ARDL-ECM estimates the long-run and short-run relationship between economic growth and unemployment. The validity of Okun's law is tested in the Mauritian context and Okun's coefficient is thereby estimated. The results obtained from the tests show that both in the long run and short run, there is a negative cointegration between economic growth and unemployment, but it is not statistically significant. Whereas, the result of Okun's law-gap version shows that Okun's law is indeed valid in the small economy of Mauritius. From the Okun's coefficient obtained, it is concluded that 4 percent change in gross domestic product (GDP) growth rate changes unemployment rate by 1 percent in the opposite direction in Mauritius. © 2020 Emerging Markets Institute, Beijing Normal University.	Initial effects	E
Huang L.-H., Huang H.-Y.	Real wage stagnancy: Evidence from Taiwan	2020	Singapore Economic Review	This study examines how and why the gap between economic growth and real wage growth in Taiwan is widening, a phenomenon that contrasts sharply with South Korea, which has a similar industrial structure to that of Taiwan. We empirically demonstrate that, despite the continued growth of labor productivity, the benefits from economic growth allocated to workers have been falling, and that this process has accelerated following the 2008-2009 financial crisis. The labor market institutional effect contributed partially to the problem. Workers' purchasing power, measured by the real consumption wage rate, has been declining for a relatively long period, implying significant deterioration of terms-of-trade, and cutting real wage growth by as much as 2.23% per year. The terms-of-trade effect is particularly prominent in the manufacturing sector, which is highly export-oriented. Moreover, we found cash wages to be very sensitive to the rise in the rate of unemployment, and to the changes in output performance of the industry in which the workers are employed. The latter factor significantly reduced the cash wages paid to workers in the manufacturing sector, which highlighted the waning of workers' bargaining power regarding wages, as well as the negative impact of globalization on the labor market. We therefore conclude that the deterioration of terms-of-trade, increases in the aggregate unemployment rate, the adverse globalization effect and the institutional effect might be the main driving forces for real wage stagnancy in Taiwan. © 2020 World Scientific Publishing Company.	Labour market institutions and bargaining structure	E
Kalu E.U., Achike C., Ogbo A., Ukpere W.	Economic growth and unemployment linkage in a developing economy: A gender and age classification perspective	2020	Problems and Perspectives in Management	This paper examined the growth and unemployment linkage from a gender-classification perspective using the Nigerian economic environment. The autoregressive distributed lag model in its baseline form, the bound test, and error correction representation were used as the estimation approach. Annualized time series spanning 1981 to 2017 were used for the variables of interest. Generally, it was found that female unemployment has a positive significant influence on GDP growth rate in Nigeria, while youth unemployment negatively and significantly influences GDP. It was also found that male unemployment does not significantly affect the GDP growth rate in Nigeria. In the long run, the main variables influencing GDP growth rate within the context of this study include unemployment rate, ratio of labor force size to the national population, female unemployment rate, and youth unemployment rate. The error correction representation and the bound test estimates confirm that growth adjusts to the dynamics of the studied unemployment variables. The study advocates for an increase in government capital expenditure, as this is theoretically and practically known to create new jobs. This spending should go into real and core productive sectors that would create upstream and downstream jobs opportunities. © This is an Open Access article, distributed under the terms of the Creative Commons Attribution 4.0 International license, which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.	Policy maker effects	E

Tsaurai K.	AN EMPIRICAL STUDY OF THE DETERMINANTS OF INCOME INEQUALITY IN TRANSITIONAL ECONOMIES USING PANEL DATA ANALYSIS METHODS	2020	Academy of Accounting and Financial Studies Journal	The paper's main objective was to explore the determinants of income inequality in transitional economies using panel data analysis [(fixed effects, random effects, pooled ordinary least squares (OLS), dynamic generalized methods of moments (GMM)] with data ranging from 2003 to 2016. The study observed that human capital development is not a significant determinant of income inequality under all the econometric estimation methods used. The dynamic GMM noted that the lag of income inequality had a significant positive impact on income inequality. All the econometric estimation methods produced results which show that economic growth had a significant deleterious effect on income inequality, in line with most theoretical predictions. Transitional economies are therefore urged to implement economic growth spurring policies to reduce income inequality. On the other hand, the dynamic GMM method shows that unemployment reduced income inequality, a finding which contradicts theory. Fixed effects, random effects and pooled OLS approaches noted that the interaction between economic growth and unemployment had a significant positive effect on unemployment, a finding which shows that if economic growth does not enhance employment, income inequality grows. Transitional economies are therefore urged to development and implement concurrent economic growth and employment enhancement policies to reduce income inequality. Other variables which were found to have a significant positive impact on income inequality include information and communication technology (fixed effects, random effects), financial development (fixed effects, random effects, pooled OLS), foreign direct investment (random effects, pooled OLS, dynamic OLS), infrastructural development (fixed effects) and trade openness (fixed effects, random effects, pooled OLS, dynamic GMM). © 2020. All Rights Reserved.	Inequality and income distribution	E
Maski G., Fadli F., Sumantri V.D.S.	Does tourism growth create a trickle-down effect in rural areas?	2020	International Journal of Services, Economics and Management	This research looks at the economic growth of the tourism sector as its growth point. Batu City has implemented the tourism sector as a growth point and has succeeded in creating very rapid economic growth and within a relatively short time. By using the error correction model, the results show that there is a positive two-way relationship between income inequality and economic growth and a negative two-way relationship between income inequality and the unemployment rate in both the long- and short-term. The economic growth of the tourism sector has resulted in a profound change in the people of Batu City from farmers to entrepreneurs (informal sector). While people who work in the informal sector are included in the figures for unemployment rate, evenly distributed income can occur because the informal sector can create jobs and absorb employment. As a result, a trickle-down effect occurred in Batu City. Copyright © 2020 Inderscience Enterprises Ltd.	Inequality and income distribution	E
Čížků A.	Economic growth, business cycles and okun's law: Unobserved components approach	2020	Statistika	Clark's (1989) bivariate unobserved components model is applied in order to estimate and analyse the trend and cycle of GDP and the unemployment rate as well as to quantify and discuss the relationship known as Okun's law. Empirical analysis is performed for 28 European countries for a time period including the current economic crisis-the end period is 2018 Q4 for all economies and the beginning period ranges from 1983 Q1 to 2000 Q1 according to data availability. Important results indicate that in virtually all European countries: (1) the growth of the trend component of GDP decreased systematically after the crisis; (2) the output gap improved in the last five years-this finding proved to be quite robust as it was also confirmed by Hodrick-Prescott estimates of the output gap for different smoothing parameter values; (3) the trend component of the unemployment rate turned out to be constant over time, indicating that possible hysteresis effects have not played an important role in European labour markets; (4) the output gap and cyclical unemployment rate are highly negatively correlated, confirming the strength and validity of Okun's law across European countries. © 2020 Czech Statistical Office.	Initial effects	E

Vishnevskaya N.T., Zudina A.A.	Worker displacement: OECD policies	2020	World Economy and International Relations	According to OECD statistics, in 2003–2013 annual incidence of job displacement varied from 1% to 7% of total number of wage and salary workers aged 20–64. Labour reallocation is a necessary part of labor market flexibility and economic growth however worker displacement generally also leads to an increase in unemployment and to a decrease in the income of those dismissed. Therefore, a set of measures to mitigate the negative consequences of this process is becoming an important direction of labor market policy. Significant cross-country differences in the ratios of re-employment and the size of wage gaps between jobs indicate that a well-designed and effective labor market measures, as well as properly "tuned" institutions, can significantly reduce the social risks of layoffs. Employees of obsolete professions who require serious professional retraining are in the group of primary risk after the displacement. Given the increasing dynamism and flexibility of the labor market throughout the world, the development of a more targeted system of financial support for the dismissed which involves coordinating the payment of benefits of various types, as well as taking into account the interests of vulnerable workers who do not have time to gain the tenure necessary to participate in the voluntary insurance program, is needed. Present study outlines the main policies for mass layoffs in OECD countries. Particular attention is paid to the characteristics of the system of financial support for the displaced workers, including the specifics of unemployment benefits and severance pay, as well as the configuration of active programs in the labor market and the practices of the public employment service. © 2020, Russian Academy of Sciences. All rights reserved.	Labour market institutions and bargaining structure	A
Çiftçioğlu S., Sokhanvar A.	Can increasing the r&d intensity lower unemployment rate? Case of five selected european countries	2020	Ekonomicky casopis	This paper empirically examines the short-term and long-term effects of changes in R&D intensity on particularly the rate of unemployment in addition to economic growth for a sample of five European countries. Utilizing annual data for the sample period of 1991 – 2017, two alternative methodologies, namely the 'ARDL bounds testing' and 'PMG estimation' are employed. The empirical results have shown that there exists a long-run relationship between R&D, unemployment rate, and economic growth in four of the five countries investigated. Furthermore, the results of panel data analysis have suggested that even though in the long-run a given increase in R&D is likely to lower the rate of unemployment (in the average country of the sample), in the short-run, it can have adverse effects on unemployment. The paper argues that these empirical results can be taken as an evidence for the idea that even though the dominant form of technological change is in the form of 'new task creation' instead of 'automation', in the short-run new technologies may lead to an increase in the rate of unemployment due to the possible mismatch between the skills required by the newly created tasks (jobs) and the skills of the existing pool of workers. © 2020, Institute of Geography of the Slovak Academy of Science. All rights reserved.	Structure change, productivity growth, education and training	E
Purnomo D., Kusumastuti N., Anas M., Aisyah S., Shaari M.S	Evaluating the economy growth by supply chain strategies and testing the validity of Okun's laws in Indonesia	2020	International Journal of Supply Chain Management	With globalization and integration of the world economy, the concept of extended enterprise has taken root, leading to an increasingly important role played by the entire supply chain management, including procurement, logistics and distribution for ensuring a consistently high degree of customer satisfaction in terms of quality, delivery and cost. Unemployment is one of the main problems in developing countries, including Indonesia. This study aims to evidence the state pattern of the relationship between unemployment, supply chain strategy, and economic growth by investigating the accuracy of the Okun's Law and the Phillips' Curve in Indonesia. Time series data are sourced from the World Bank. As an addition to the independent variable, the dependency ratio is acknowledged to investigate unemployment based on the premise that a high dependency ratio will reduce the unemployment rate. The analysis model used in this study is the Error Correction Model (ECM). The results of this study are inflation rates, economic growth, and dependency ratios attained to be positively related to unemployment, and it illustrates that the Okun' Law and Phillips' Curve are not accurate to be applied in Indonesia. © 2020 ExcelingTech Pub, UK.	Initial effects	E
AboElsoud M.E., AlQudah A., Elish E.	Does a change in immigration affect the unemployment rate in host	2020	Journal of Applied Economics	This study examines and evaluates the dynamic causality relationship between immigration, unemployment, wages and GDP per capita in host countries with a focus on Australia. Previous research has indicated that the economic impact of immigration is significant; nonetheless, its effect on the labour market being positive or negative is inconclusive. This study uses a Vector Error Correction Model (VECM) to examine the dynamic short- and long-run nexus between these variables in Australia over the period 1980–2016. The paper provides clear evidence to	Migration and Brain Drain	E

	countries? Evidence from Australia				policy makers on the positive spillover effect of immigration policies developed by the Australian government. © 2019, © 2019 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.		
Toomsalu L., Tolmacheva S., Vlasov A., Chernova V.	Determinants of innovations in small and medium enterprises: A European and international experience	2019	Terra Economicus	This paper focuses on the determinants of innovations in small and medium enterprises (SMEs). SMEs play a decisive role in economic transformation by creating additional workplaces and thence levelling the unemployment, contributing to the local budgets, or promoting innovations and economic growth. Moreover, they play a key role in the integrated development of formal and informal entrepreneurial institutions. Thence, innovations represent an important factor for fostering the growth and development of SMEs and are likely to contribute to their overall success and economic profits. In this paper, we use the data from the selected European Union (EU) countries and employ the empirical model envisaged for singling out the factors that influence innovation in SMEs. We use econometric modelling with several variables in order to determine relationships and draw the causalities. Our results demonstrate that higher competition, investment into technologies and optimisation tend to foster innovations, while obsolete equipment and personnel, as well as financial and administrative barriers tend to present obstacles for innovations. We also found that it is important for every SME to concentrate on its inner structure, management, skills and ambitions which are required for formulating a clear innovative strategy on a path to successful growth and success on the market. © 2019.	Structure change, productivity growth, education and training	F+E
Tung L.T.	Role of unemployment insurance in sustainable development in vietnam: Overview and policy implication	2019	Entrepreneurship and Sustainability Issues	Unemployment insurance is one of the social policies that have received much attention from economists in many countries over the past decades. Since 1986, the Vietnamese economy was shifted from the centrally-planned economy to a market one leading to a very fast development of the labor market. Having a young population structure, so the unemployment problem and unemployment insurance policy had considered and recognized as the important social issues in this country. In Vietnam, the unemployment insurance policy is an important part of the Social Insurance Law, promulgated in 2008. Our paper aims to analyze the role of unemployment insurance in Vietnam since this policy officially began in 2009. The Vietnamese government has some targets in the formation of the unemployment insurance fund is the maintenance of regular compulsory contributions of parties to labor relations in combination with public budget supports, focusing on creating a stable financial funding for unemployment insurance regime in the long run. Our regression results using the Ordinary Least Squares (OLS) method and the analysis descriptive statistics show that the unemployment insurance policy has a positive effect on reducing faster and stabilizer the unemployment rate of the Vietnamese economy (this policy have reduced the average unemployment rate by 0.66% per year since 2009). Furthermore, the unemployment insurance policy not only helps the unemployed people stabilize their lives but also provides more opportunities for them to faster continue participating in the labor market by many benefits including free counseling services, free employment placement services, free training services for unemployed people in Vietnam. The success of the unemployment insurance policy has been noted in reducing the number of labor strikes by softening the relationship between employers and their workers in Vietnam. Besides, the unemployment insurance policy will help reduce the fluctuations of the economic cycles automatically by increasing the aggregate demand by multiplier mechanic and contributes to support the economic growth in Vietnam in the period 2008-2010. We can conclude the benefits of unemployment insurance help the development of Vietnamese society towards sustainability in the long run. Finally, the article also suggested some policy implications for the policymakers to have a better control the unemployment as well as stabilize the labor market in Vietnam in the future. © 2019 by author(s) and VsI Entrepreneurship and Sustainability Center.	Labour market institutions and bargaining structure	E

Táncošová J.	The role of foreign direct investment in the economy of slovakia	2019	Entrepreneurship and Sustainability Issues	In the paper, we point out the role of FDI in the Slovak economy, analyze their status in the period from 2010 to 2015, suggest their regional and branch aspect. FDI is an effective form of international business that complements lack of internal resources and contributes to economic growth. As competition of FDI is very strong, it is important to create appropriate economic, political and legislative conditions that the economy is capable of creating for foreign investors. The state of FDI in the Slovak economy has been gradually increasing since 2010, but its large sectoral and regional imbalances appear to be unfavorable. The impact of FDI on GDP development indicates that each FDI unit contributes to economic growth, respectively GDP growth; it affects employment and contributes to the solution of unemployment. The problems of FDI in the Slovak economy are one-sided positioning in the automotive industry and at the same time their location in the developed regions, i.e. in the area of Western Slovakia. © 2019 by author(s) and VsI Entrepreneurship and Sustainability Center.	Policy maker effects	E
Radulescu M., Serbanescu L., Sinisi C.I.	Consumption vs. Investments for stimulating economic growth and employment in the CEE Countries–a panel analysis	2019	Economic Research-Ekonomska Istrazivanja	The aim of this paper is to find out if the high economic growth rates achieved by the CEE countries are based either on consumption or on investments, considering many exogenous factors that impact on the economic growth and how these factors can contribute to the employment process in the CEE economies to stress if these trends of economic growth and employment are sustainable in the long run. We performed two Panel Least Squares and Pool Least Squares estimations to determine the impact of the exogenous variables on the economic growth (as GDP per capita growth) and on the unemployment rate in the short and long run, depending on the lags of the exogenous variables used in the analysis. We used yearly data series during 2004–2017 for eight selected CEE countries. Our results show that private consumption is positively related with economic growth in the short run, but it doesn't support the job creation process, in the same way as the savings rate can't determine positive effects on the employment. Public spending is strongly and negatively correlated with economic growth and positively correlated with the unemployment rate in the CEE region, while the net export is weakly impacting on the economic growth in the CEE region and doesn't support the employment process in this area. The impact of the domestic investments on the economic growth is weaker in the CEE area than the impact of both private and public spending, but they are positively correlated with the economic growth and negatively correlated with the unemployment rate, while the correlation of the foreign direct investments (FDIs) with both economic growth and unemployment is very weak, as it is the case of net exports. We conclude that the economic growth in the CEE area is mainly based on the private consumption in the short run but the private consumption doesn't support the job creation process either in the long run or in the short run. The qualitative factors included in the analysis by using global competitiveness index (corruption control, bureaucracy, infrastructure quality, governance effectiveness, political stability, rule of law factors, property rights, markets efficiency, etc.) and corruption perception index are strongly and positively correlated with the economic growth and negatively correlated with the unemployment rate. © 2019, © 2019 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.	Policy maker effects	E
Al-Haddad L., Sial M.S., Ali I., Alam R., Khuong N.V., Khanh T.H.T.	The role of small and medium enterprises (SMEs) in employment generation and economic growth: A study of marble industry in	2019	International Journal of Financial Research	This study is undertaken to find out how SMEs contribute to the economy in terms of employment generation and its impact on the economic growth of the country. Small and Medium Scale Enterprises (SMEs) is accepted globally as a tool for empowering the citizenry and economic growth. In Pakistan efforts have been made by successive governments to increase employment opportunities, reduce poverty and accelerate economic growth by increasing foreign direct investment, diversifying the economy, enacting policy frameworks which favor small business ownership and entrepreneurship programs. Specifically, this study tends to figure out: how SMEs contribute to employment generation, whether a significant number of people is employ within the SME sector; whether the SMEs increase the income level of people. The total number of employees was 255 being selected randomly from Swat marble industries. A questionnaire was constructed and distributed to the selected respondents. The responses were collected and analyzed using the Statistical Package for Social Sciences (SPSS) analytical tool. The study exposes that SMEs play a vital role in employment generation. There is a positive relationship between SMEs and unemployment reduction. The result also shows that there is a positive relationship between SMEs and increase in income level. This study may be beneficial both for practitioners and	Entrepreneurial activity effects	E

				academicians. For practitioners, the current study may help to devise policies and strategies concerning SMEs to generate employment opportunities. The current study may lead to the generalizability of existing research in the same field as for academic aspect is a concern. © Sciedu Press.		
Novák M., Darmo Ľ.	Okun's law over the business cycle: Does it change in the eu countries after the financial crisis?	2019	Prague Economic Papers	The relationship between economic growth and unemployment is well known. The growth of gross domestic product leads to a fall in unemployment and, reversely, its fall is associated with a rise in unemployment. The paper deals with the estimation of Okun's coefficient for EU28 countries between years 2001 and 2014. Additionally, two sub-periods are also analysed. These represent the pre-crisis period 2001–2007 and the post-crisis period 2008–2014. The result shows higher Okun's coefficient in the post-crisis period. Unemployment in that period responded to changes in gross domestic product more sensitively than in the pre-crisis period. As a result, in order to decrease unemployment, lower economic growth was necessary in the post-crisis period compared to the pre-crisis one. © 2019, University of Economics - Prague. All rights reserved.	Initial effects	E
Iwegbunam I.A., Robinson Z.	Economic growth models and government expenditure in South Africa: A disaggregated impact analysis	2019	International Journal of Economics and Finance Studies	This study examined the effects of government expenditure on different components of economic growth in South Africa. The six key policy variables employed in the analysis were derived from the Solow neoclassical growth model and the New Growth Path (NGP), a macroeconomic framework designed to address the main challenges (unemployment, poverty and inequality) facing the economy as a result of its political past. The analysis of the relationship was carried out using the cointegration model, long-run estimates and the VECM, because assessing the effects of government expenditure on economic growth goes beyond the short-term period, due to the fact that it takes time before government outlays have an effect on the economy. The findings from the analysis revealed that though there exists a long-run equilibrium relationship among the variables with the cointegration results, the long-run estimates showed that aggregate private consumption expenditure and employment-to-population ratio are significantly, but negatively, related to economic growth, while net inflows of foreign direct investment and gross fixed capital formation are negatively related to gross government expenditure. This implies that government needs to direct most of its spending towards human capital development, in order to overcome the challenges. However, government expenditure needs to be monitored, since excessive public capital expenditure might reduce the positive impact of foreign direct investment on economic growth. The study therefore suggests that government should consider increasing its expenditure on the significant variables that support labour and capital development, in order to enhance economic growth in South Africa. © 2019, International Journal of Economics and Finance Studies.	Policy maker effects	F+E
Ben-Salha O., Mrabet Z.	Is Economic Growth Really Jobless? Empirical Evidence from North Africa	2019	Comparative Economic Studies	North African countries recorded the highest youth unemployment rate in the World during the latest years. The main causes for that situation continue to be at the forefront of the debate among economists, sociologists and policymakers. This paper contributes to the existing literature by estimating the Okun's law for four North African economies over the period 1991–2013. It examines the reaction of unemployment rate to output for different groups of the labor force as determined by age-group and gender. In addition to the basic linear specification, we present estimates of the Okun's coefficients by taking into account the potential presence of structural breaks, threshold and asymmetry. The empirical investigation highlights the presence of mixed findings regarding the significance, magnitude and stability of coefficients for the different groups of the labor force and countries. Policy implications are correspondingly drawn. © 2019, Association for Comparative Economic Studies.	Initial effects	E

Boyd J.A., Huettinger M.	Smithian insights on automation and the future of work	2019	Futures	The number of 'future of work' studies, which estimate the potential impact of automation on employment, has grown rapidly in the past few years. They have, however, received very little critical attention and warrant closer examination. One cause for concern is the shortcomings of their methodological approach, which relies on measuring the technical feasibility of automating particular occupations and tasks. Doing so, however, creates an illusory sense of certainty and discounts the role of non-technical determinates behind advances in, and the utilisation of, automated technologies. Second, the way in which they frame their policy recommendations –as balancing an unfortunate trade-off between economic growth and unemployment – obscures the benefits that fuller automation may bring. This paper argues that these particular characteristics of 'future of work' studies invites comparison with the works of Adam Smith, who explored these issues in a closely connected, yet largely forgotten, way. First, Smith emphasised the role of non-technical determinates in technological progress and in this way paints a fuller picture of how automated technologies may develop. Second, Smith provides a normative perspective that would encourage these studies to see the potential of automated technologies to actually reconcile the apparent trade-offs. © 2019 Elsevier Ltd	Technological skills and agglomeration economies	A
Lim K.Y.	Modelling the dynamics of corruption and unemployment with heterogeneous labour	2019	Economic Modelling	This paper presents an endogenous growth model with heterogeneous labour, endogenous unemployment, and public sector corruption. Unlike most previous studies, the model does not separate public officials and private individuals into two distinct groups. Instead, taking up bureaucratic appointment as a public servant is modelled as an occupational choice, which then allows for the endogenous determination of the proportion of public officials, the share of corrupt officials among them, and the public investment efficiency of the economy. The dynamics of endogenous corruption and unemployment are studied using numerical policy experiments based on a stylized representation of a middle-income African economy with high corruption and unemployment. The main finding is that, large-scale public infrastructure push has no effect on raising growth in an economy with high corruption. However, if preceded by social and anti-corruption policies that successfully induce a structural change, it will then be effective in raising growth. © 2018 Elsevier B.V.	Other effects	F
Sabbaghi O.	How do entrepreneurship rates vary across different races?	2019	Journal of Small Business and Enterprise Development	Purpose: The purpose of this paper is to examine the time-series dynamics of entrepreneurship rates for different race classifications based on household characteristics over the 1996 through 2013 period. Design/methodology/approach: Using microdata from the Kauffman Foundation, this study investigates the roles of unemployment, homeownership, income, immigration, education, age, gender and marital status in relation to entrepreneurship rates for different race classifications through ridge regression analysis. Findings: Results suggest that the time-series variation in entrepreneurship rates for different race classifications are variable-dependent, moreover, the economic and statistical significance of the candidate explanatory variables are sensitive to the time period under analysis. Unemployment, homeownership, education, age and marital status are significant variables for whites while unemployment, income, immigration and gender variables are significant for blacks. For the case of Native Americans and Asians, the candidate explanatory variables do not explain the time-series variation in entrepreneurship rates for the sample periods in this study. Social implications: This study exhibits implications for public policy in helping to promote entrepreneurship at the individual level and help stimulate entrepreneurial activity as a mechanism for promoting economic growth. Originality/value: The findings suggest the importance of examining entrepreneurship rates across time based on race classifications. This study highlights the importance of conducting ridge regression analysis for different sub-periods in time when assessing entrepreneurship rates. © 2018, Emerald Publishing Limited.	Entrepreneurial activity effects	E
Cardenete M.A., Garcia-Tapial J.	Assessing the economic impact of entrepreneurship on a regional economy	2019	Applied Economics Letters	This article analyses the impact that entrepreneurial activity has, from the economic point of view, on a regional economy (Andalusia), based on a Social Accounting Matrix linear model. Moreover, to measure entrepreneurship at regional level, it is defined what can be considered an entrepreneurial initiative company from a quantitative point of view. The results obtained, in terms of Production, GDP and job creation, show how entrepreneurship, in the case of Andalusia, contributes to the sustainability of the economy, its growth and, above all, the reduction of unemployment in the short term. © 2018, © 2018 Informa UK Limited, trading as Taylor & Francis Group.	Entrepreneurial activity effects	F+E

	using social accounting matrices: the case of Andalusia					
Abubakar J., Nurudeen I.	Economic Growth in India, Is It a Jobless Growth? An Empirical Examination Using Okun's Law	2019	Indian Journal of Labour Economics	This study empirically examines the relationship between unemployment and output in India by fitting the Okun's law. To achieve this objective, an annual time series data for unemployment and output were collected from the World Bank and Reserve Bank of St. Louis. The empirical estimation starts with testing the unit root evidence using Perron (1997) and Elliot et al. (Econometrica 64(4):813–836, 1996) DF-GLS, and the impact models were estimated using linear and nonlinear econometric models. The estimates show that quantitatively, there is no significant difference between the two modelling approaches. The evidence indicates that the relationship between unemployment and output for the Indian economy is consistent with Okun's law. We find most of the coefficients to be negative, less than unity and statistically significant and this conforms to the theoretical expectation. The study also finds that based on the estimated evidence the 11.75% nominal GDP growth rate as targeted by the Indian government will only result in 0.52% decrease in unemployment which is insignificant for the Indian population. The study found that, to get a 1% decline in unemployment, 25% nominal GDP growth rate is required which is twice the targeted value. Therefore, the study concludes that although Indian output is growing, the growth is jobless because it is not up to the threshold level that ensures a decline in unemployment. © 2019, Indian Society of Labour Economics.	Initial effects	F+E
Tenzin U.	The Nexus Among Economic Growth, Inflation and Unemployment in Bhutan	2019	South Asia Economic Journal	In order to understand the dynamics of unemployment in Bhutan at a macro-level, this study has explored the association among economic growth, inflation and unemployment from 1998 to 2016. The autoregressive distributed lag (ARDL) model was applied to estimate the impact of economic growth and inflation on unemployment. The results of this empirical analysis suggest that economic growth had no impact on the reduction of unemployment rate in Bhutan both in the short and in the long run. In fact, as the economic growth increased, so did the unemployment rate. However, inflation had a negative association with unemployment rate in the short run and a positive association in the long run. In other words, an increase in the employment rate led to an increase in the inflation in the short run. Likewise, if inflation is not monitored or controlled, the uncertainty of inflation can lead to lower investment and lower economic growth, thereby causing unemployment to rise in the long run. This study, therefore, recommends policymakers to take into account the employment elasticity with respect to economic output and focus on sectors, which have more absorptive capacity in engaging the young labour market entrants. JEL: B22, C22, E24, E31. © 2019 Research and Information System for Developing Countries & Institute of Policy Studies of Sri Lanka.	Policy maker effects	E
Wang C.-H., Chung C.-P., Hwang J.-T.	The impact of minimum wages and foreign domestic workers in Taiwan	2019	Australian Economic Papers	The purpose of setting the minimum wage is mainly to protect the rights and interests of vulnerable workers and to enhance productivity of labour. In this paper, an attempt has been made to explore the effect of the upwards adjustment of the minimum wage in Taiwan on the inflation rate, the unemployment rate, labour productivity, economic growth and other macroeconomic variables by means of an analysis of empirical data using a structural vector auto-regressive model. The findings of the paper show that upwards adjustment of the minimum wage in Taiwan will not intensify the unemployment rate. On the contrary, it will help to promote labour productivity to an extent that will have a positive effect on the economic growth rate. In addition, this paper investigates, long-term care system should incorporate the foreign domestic worker labour pool, which could provide the additional personnel necessary for the nation's long-term care. Minimum wage should apply to foreign domestic workers, and foreign domestic workers should not be treated as a separate group of workers in minimum wage policy. © 2018 John Wiley & Sons Australia, Ltd	Policy maker effects	F+E

Burksaitiene D., Jegelaviciute R., Grencikova A., Krajco K., Sokol J.	Economic indicators paradigm on the labour market in lithuania and slovakia	2019	Engineering Economics	Labour markets in the EU have been profoundly changed. Recently, unemployment rates have declined due to the economic recovery. The economic growth that Europe has been enjoying is extremely labour-intensive. Statistical data show that unemployment has been falling for several consecutive years. Labour markets of the former Eastern European countries are attractive for investors for their skilled labour and low cost of labour. Nevertheless, there are processes and phenomena occurring which can have damaging consequences to the labour markets. The present study compares current trends in the Slovak and Lithuanian labour market. Since the existing analyses usually address economic situation in the V4 countries, Baltic countries or compare their performance with developed EU countries, the originality of the paper lies in comparing the selected economic indicators on the Slovak and Lithuanian labour markets. The purpose of the study is to analyse and compare selected macroeconomic indicators of individual countries, to find paradigms of development on the labour market and to predict development forecasts in individual macroeconomic indicators. The authors' research revealed that long-term sustainable growth in the labour market is secured in both countries, based on the analysis of the development of indicators affecting the labour market. A polynomial model and the moving average model are used for the analysis. The arrival of the new crisis could stop this growth, but the countries have learned from the last crisis. Therefore, they are gradually making decisions to alleviate the consequences. © 2019, Kauno Technologijos Universitetas. All rights reserved.	Labour market institutions and bargaining structure	F+E
Le T.T., Dan N.D.L., Nguyen T.D.T., Vu T.S., Tran M.D.	Determinants of financial inclusion: Comparative study of Asian countries	2019	Asian Economic and Financial Review	Using panel data of twenty Asian countries over a period of six years (2011-2016), this research investigated the key determinants of financial inclusion among Asian countries via the Random Effects Model (REM). Financial inclusion has been considered as enabler for seven of the seventeen sustainable development goals, which brings access to financial services to all and directly contributes to poverty reduction, capacity buildings and equality. The main findings are that: (i) the countries with stronger economic growth and higher income have a significantly higher financial inclusion index, as people have more resources/incomes and better chances to utilize financial services; (ii) the higher the literacy, the better the financial inclusion as people with higher literacy understand the pros and cons of financial services and providers, better knowledge of using financial services wisely; (iii) unemployment rates had a negative impact on the financial inclusion index; (iv) surprisingly differing from previous studies, inflation, population density, network and deposit interest rate were not statistically significantly correlated with financial inclusion. © 2019 AESS Publications. All Rights Reserved.	Financial markets and Banking sector effects	F+E
Lyashok V.Y., Lopatina M.V.	Wage flexibility in Russia: Empirical evidence from microdata analysis [Гибкость Заработных Плат В России: Что Показывают Микроданные?]	2019	Ekonomicheskaya Politika	The paper discusses the real wage elasticity to unemployment and GDP in Russia. An approach based on panel microdata about earnings of individuals has been applied. This methodology helps to avoid a number of difficulties that are created when aggregated analytical data on the average wage dynamics are used. The study has indicated some conclusions. Firstly, a review of estimations from other countries based on the same methodology is provided. The results confirm the conclusion about higher wage elasticity to unemployment in Russia than in many developed countries. However, the real wage elasticity to GDP in Russia is comparable with the same elasticity in other countries. Secondly, the use of microdata facilitates the evaluation of real wage flexibility for particular groups of workers and for different types of jobs: in other words, the heterogeneity of wage flexibility. As shown by calculations, wage flexibility is higher for young men living in the city and working in the private or informal sector of the economy. Moreover, it was found that wage flexibility of workers who have changed jobs during the year is higher than that of those who have remained with the same employer. Thus, inter-firm mobility contributes to high wage flexibility in Russia: during economic growth employees, on average, newly start better paid jobs, whereas during crises they switch to low-paid jobs. © 2019 Ekonomicheskaya Politika.	Labour market institutions and bargaining structure	E

| Oudat M.S., Alsmadi A.A., Alrawashdeh N.M. | Foreign direct investment and economic growth in Jordan: An empirical research using the bounds test for cointegration | 2019 | Revista Finanzas y Politica Economica | This paper investigates both long-run and short-run elasticities between gross domestic product and foreign direct investment (FDI) in Jordan. Annual data have been used in order to explore the relationship between foreign direct investments (FDI) with economic growth for the period 1992-2013. Data were collected for both variables (FDI and GDP) from the World Bank and World Development Indicators, and the Autoregressive Distributed Lag Model (ARDL) approach was used. The results show long-run and short-run elasticities in foreign direct investment (FDI) and GDP. The results indicate that Jordanian policy makers focus their efforts to attract more FDI to Jordanian economy. This is because more FDI is expected to lead to a decrease in economic obstacles in Jordan (e.g., increased level of investment, decreased unemployment rate). © 2019 Catholic University of Colombia. All rights reserved. | Policy maker effects | F+E |
| Bhalla R., Meher S. | Education, Employment and Economic Growth with Special Reference to Females in Kerala | 2019 | Indian Journal of Labour Economics | Human development is considered to be the ultimate objective of development, with economic growth as a means to achieve it (Ranis et al. in World Dev 28(2):197–219, 2001). Development stands to be justified when it is equipped with good employment opportunities. Employment provides the means for meeting the income and subsistence needs of the individuals and their families, which fulfils the goal of overall and equitable development (Mathew in Int Labour Rev 154:497–518, 2015). Employment levels would rise when there is sufficient and efficient human capital. Human capital establishes an interconnection between employment and development. The relationship between education and employment is better understood through the labour market, which has a mediating role in influencing educational choices and employment prospects. Against this background, this paper tries to examine the interlinkages between human development, economic growth and employment situation in India with special reference to females in Kerala. Using secondary data, this paper tries to address primarily two objectives: firstly, to examine the relationship between educational attainment, employment and economic growth in India and secondly, to explore the trends and pattern in female employment state-wise with the main focus on Kerala. There exists a huge mismatch between the demand and supply gap among labour force in all Indian states. Employment trends in India, and in particular, women's employment, have been an issue of considerable discussion in scholarly writings over the last few years. Extensive literature review and data suggest that though there has been a constant rise in the educational level of women in India, the employment rates have not raised at a similar pace. Kerala, the most literate state of the country, shows an identical picture among higher educated women where unemployment rate is as high as 20–30%. Women's individual job preferences, overall high unemployment in the economy, family constraints, lack of adequate skills and discouraged worker effect are some of the probable reasons for high unemployment among females. The study concludes that "Kerala model of development," on the basis of its impressive historical accomplishment in social and human development indicators, is definitely praiseworthy but not to be replicated. It is so because though the model has surpassed every state in terms of human development indicators, it showed a development trajectory by fostering unemployment rates, especially in terms of female participation. Therefore, the study suggests that in order to achieve holistic development, there is an urgent need to understand the basic requirement of a particular state. Considering female employment, the study evokes creation of an environment that promotes women to join workforce and thereby attain economic growth. States such as Kerala which have a large pool of educated women must develop policies which aim towards enhancing their employability skills so that the benefits of human capital can be obtained. © 2019, Indian Society of Labour Economics. | Structure change, productivity growth, education and training | F+E |

Spruk R., Kovac M.	Transaction costs and economic growth under common legal system: State-level evidence from Mexico	2019	Economics and Politics	This paper examines the contribution of administrative and procedural transaction costs to economic growth under common legal system. We show that administrative and procedural costs vary quite a lot even within the institutional environment sharing the common legal system. States with low-cost business registration, low-cost access to property rights and greater judicial efficiency tend to have consistently higher growth. The established effects are robust to alternative model specifications, heterogeneity bias, and to a variety of control variables that might confound the effects of administrative and procedural costs on growth. Such differences in costs are far from being trivial as we show that these within-system differences might be instrumental in influencing economic growth. Lower administrative and procedural costs induce growth by increasing investment rate, lowering unemployment rate, encouraging labor supply and improving total factor productivity. In the counterfactual scenario, the transition from high-cost to low-cost regime is associated with substantial growth and development gains over time. By exploiting the variation in the disease environment, ethnic fractionalization and historical urbanization, we show that the negative effect of rising procedural and administrative costs on growth and development appears to be causal. © 2019 John Wiley & Sons Ltd	Policy maker effects	E
Redlichová R., Chmelíková G., Blažková I., Tamáš V.	Role of companies' size in socio-economic development of regions in the czech republic [Uloga veličine poduzeća u društveno-ekonomskom razvoju regija u češkoj]	2019	Ekonomski Pregled	The aim of this paper is to investigate socio-economic development drivers of NUTS 3 regions in the Czech Republic. The aim is fulfilled by examination of the relationship between one of the regional development factors – the companies' size structure and the development of the region from both socio and economic views. We derive from the theory of diversification and prior empirical findings, and empirically test the role of compa-nies' size in regional development. We use a balanced dataset of 14 regions covering the years 2000 – 2016 that provides the information about regions' socio-economic performance in terms of GDP and unemployment rate. We hypothesise that unemployment rate in the regions with higher share of small firms is less sensitive to the general trend of the whole economy. However, the higher share of small firms leads to improved regional GDP. Our findings confirm that small firms accelerate economic growth while playing a role of a social stabiliser in Czech regions. Our conclusions could help in designing the regional policy in the Czech Republic. © 2019, Hrvatsko Drustvo Ekonomista. All rights reserved.	Technologic al skills and agglomeratio n economies	E
Dankumo A.M., Ishak S., Oluwaseyi Z.A., Onisanwa I.D.	Does Okun's law explain the relationship between economic growth and unemployme nt in Nigeria? [Adakah Undang-undang Okun menjelaskan hubungan antara pertumbuhan ekonomi dan	2019	Jurnal Ekonomi Malaysia	Okun (1962) statistically established a negative association between growth and unemployment. This is known as Okun's Law. This paper investigates, if Okun's law holds in Nigeria considering the nature of its system of governance, and the study employs an ARDL bounds test approach using data covering the period of 22 years between 1996 and 2017. The results show that unemployment, efforts to reduce corruption and political stability have a negative relationship with growth, although only political stability is significant, whereas, unemployment and corruption are not. The role control of corruption and political stability are contrary to the expected effect which was a positive one. This result is thus contrary to Okun's law, which states that "1% decrease in unemployment will lead to 2% increase in GDP", even though the relationship is shown to be negative. Measures and policies to enhance stable and conducive environments were recommended. © 2019 Penerbit Universiti Kebangsaan Malaysia. All rights reserved.	Initial effects	E

	Pengangguran di Nigeria?]					
Romanyuk I., Pshenichnikova S., Plotnikov V.	The relationship of employment, economic growth and economic structure (The example of Russia)	2019	Espacios	Labor is one of the main factors of production. Economic growth and social development depend on the full use of it and the quality of the workforce. The article discusses the direct and inverse links of employment and productivity with economic development, changes in the structure of the economy (on the example of the Russian economy). The authors revealed the fact of insufficiently effective use of labor resources in Russia and offered measures to improve employment and increase productivity. © 2019 Revista ESPACIOS.	Structure change, productivity growth, education and training	E
Kilic C., Yucesan M., Ozekicioglu H.	Relationship between migration and unemployment: Panel Data Analysis for Selected OECD Countries	2019	Montenegrin Journal of Economics	In this study, impacts of migration on labor market are studied. As changes experienced in the labor market of migration receiving and sending countries impact unemployment figures directly, the study is based on the determining the relationship between migration and unemployment. Literature investigating the relationship between migration and unemployment mainly focuses on the impacts of migration on labor markets. There is no generally accepted opinion on the direction and degree of impact of internal migration and international migration on unemployment. While some of the studies argue that migration has negative impact on unemployment, some argue just the opposite and even some express that there is no significant relationship between migration and unemployment. We investigate this direction and size of the relationship between migration and unemployment in 23 selected OECD countries. In panel data model we found that migration and economic growth have a negative and statistically significant effect on unemployment whereas; the consumer price index and average wages have a positive but statistically meaningless effect. It is observed that results obtained in this study are in parallel with the results of studies in the literature conducted by Kulkolkarn and Potipiti (2007), Heid and Larch (2011), Fromentin (2013) and Latif (2015). © 2019, Economic Laboratory for Transition Research. All rights reserved.	Migration and Brain Drain	E
Lawanson O.I., Umar D.I.	Gender inequality and its implication for inclusive growth in Nigeria from 1980 to 2018	2019	Asian Economic and Financial Review	Earlier empirical studies on inequality concentrated more on its effects on economic growth with limited attention on its consequences for inclusive growth. Nigeria on average has achieved its annual target growth rate. However, stark realities of inequality, unemployment and poverty amid growth point to the need for inclusive growth. This paper examined the gender inequality implications for inclusive growth in Nigeria from 1980 to 2018 using data from the World Development Indicators (2018), National Bureau of Statistics (2018) and CBN Statistical Bulletin (2018).This study used the ARDL cointegration method in the analysis and the results showed that gender inequality in education and employment both in the short and in the long term portend grave consequences for inclusive growth in Nigeria. Government should take appropriate policy measures by ensuring equal access to education and employment for both men and women to minimize economic losses. Attaining inclusive growth in Nigeria is unlikely without gender equality. Therefore, this paper recommends that gender equality should be included in the National Development Agenda and be backed by policies that will enforce its operation both in public and private sectors at the local, state and federal government levels. © 2019 AESS Publications. All Rights Reserved.	Inequality and income distribution	E

Hafiz O.Z.	Sukūk: A Shari'ah compliant tool for financing budget deficits	2019	Journal of King Abdulaziz University, Islamic Economics	The lead paper (Pettifor, 2019) discusses an important issue at the macroeconomic level, especially the impact of financing government's expansionary budget deficit through borrowing. The paper reiterates that claiming that the use of loans to finance the deficit will lead to a decline in the economic activity and will in turn increase the deficit, is a common misconception. In fact, the data on the British economy over a period of a hundred years, as shown in the lead paper, proves that there is a positive relationship between the volume of the budget deficit (and public debt) and economic activity. This, in turn, lead to a decrease in unemployment and thus, eventually contributed to a reduction in the budget deficit. These results have been proven by other researches as well as I have mentioned in this paper. I have also pointed to other researches which indicate that there is a negative relationship between the size of the debt (or the budget deficit), and economic activity, which contradicts the hypothesis of the lead paper. In this brief comment on the lead paper, I also discuss the fact that the global debt phenomenon has become a burning issue. I present a summary of the state of international debt around the world and discuss its impact on the economies of many countries that repay their debts in hard currencies. I argue that this situation must be taken into consideration when discussing the impact of borrowing to finance the government budget deficit to stimulate economic growth. I also propose that these effects on the borrowing economies should also be analyzed in the event that these international loans are in the form of Islamic instruments (sukūk) which are increasingly being used by some governments as a tool to finance their budget deficits, especially among the OIC countries. However, because it is a modern financing tool, several years need to pass before we can viably test the relationship between them and economic growth and the extent of their impact on key variables at the macro level of the economy. © 2019 JKAU: Islamic Econ.	Policy maker effects	A
González Sánchez V.M.	Self-employment, knowledge and economic growth: An empirical study for Latin American countries	2018	Contemporary Economics	There has been a numerous amount of economic research carried out which has aimed at identifying the factors that could contribute positively to economic growth. The economic literature available on this matter appears to acknowledge that entrepreneurship is one of the elements that could positively contribute to this growth. Among other factors, both entrepreneurship and knowledge are generally considered to play an important role regarding this macro-economic goal. Bearing this in mind, the positive bond that exists between both of them, which also contributes to economic growth and improvements in welfare, is increasingly analyzed in the different economic studies available. The goal of this paper is to empirically analyze the existing relationship between economic growth, knowledge and entrepreneurship within the context of Latin American countries during the period 2001-2016. For this purpose, the self-employment variable has been used as an empirical proxy of entrepreneurship. In general, the availability of reliable statistical information on entrepreneurship is quite limited especially in the case of the Latin American countries. Consequently, this is one of the reasons why there is a lack of unanimity as to the application of one dataset or another to measure entrepreneurship in the analysis. Therefore, although it is true that there is certain disagreement regarding the use of the aforementioned empirical proxy, there are, however, several references in favor of the use of self-employment statistics in the analysis of entrepreneurship. In order to do so, first of all we study the existing link between economic growth and certain determining factors such as public expenditure, investment, human capital, knowledge and entrepreneurship. Afterwards, we analyze the effects on entrepreneurship caused by such factors as, for example, unemployment, taxes and education (as a proxy of knowledge). © 2018, University of Finance and Management in Warsaw. All rights reserved.	Entrepreneurial activity effects	E
Rezai A., Taylor L., Foley D.	Economic Growth, Income Distribution, and Climate Change	2018	Ecological Economics	We present a model based on Keynesian aggregate demand and labor productivity growth to study how climate damage affects the long-run evolution of the economy. Climate change induced by greenhouse gas lowers profitability, reducing investment and cutting output in the short and long runs. Short-run employment falls due to deficient demand. In the long run productivity growth is slower, lowering potential income levels. Climate policy can increase incomes and employment in the short and long runs while a continuation of business-as-usual leads to a dystopian income distribution with affluence for few and high levels of unemployment for the rest. © 2017 Elsevier B.V.	Policy maker effects	F

Soylu Ö.B., Çakmak İ., Okur F.	Economic growth and unemployme nt issue: Panel data analysis in Eastern European Countries	2018	Journal of International Studies	The concepts of economic growth and unemployment are at the beginning of the most important variables in the sense that all economies are choosing and implementing economic policies. The purpose of this study to investigate the relation between economic growth and unemployment in Eastern European Countries for the period of 1992-2014 within panel data framework. In this paper this relationship has been examined in the context of Okun's Law. Panel Unit Root, Pooled Panel OLS and Panel Johansen Co-integration tests are applied respectively. The results show that the economic growth and unemployment series are stationary at first level, unemployment affected positively by economic growth, in other words 1% rise in GDP will fall the unemployment rate by 0.08% because of Okun's coefficient for Eastern European Countries and there is a co-integration between these important macroeconomic variables. © Foundation of International Studies, 2018 and CSR, 2018.	Initial effects	E
Kumar R.R., Stauvermann P.J., Patel A., Prasad S.S.	Determinants of non-performing loans in banking sector in small developing island states: A study of Fiji	2018	Accounting Research Journal	Purpose: The banking sector stability depends in large part on the size of non-performing loans (NPLs). Hence, the factors which explain the problem loans are very useful information for banks. Notably, studies in this regard with respect to the small developing countries' banking sector have received less attention. Therefore, this study aims to examine the determinants of NPLs with a case of Fiji's banking sector, over the period 2000-2013. Design/methodology/approach: The balanced sample consists of the entire banking sector (five commercial banks and two non-bank financial institutions). First, the authors estimate a base model which comprise bank-specific indicators that are related to bank management and then they extend the estimations to include macroeconomic/structural factors such as economic growth, inflation, changes of the real effective exchange rate, unemployment, remittances, political instability and external events like the global financial crisis. The estimations are done using pooled OLS, the random effects and the fixed effects regression methods. Findings: The results show that the following indicators have negative association with NPL and are statistically significant with the conventional levels: return on equity, capital adequacy requirement, market share based on assets, unemployment and time. On the other hand, the net interest margin has a positive and statistically significant association with NPL. Research limitations/implications: Subsequently, the stability of the banking sector in small developing countries such as Fiji is largely dependent on banks' profitability, solvency, size in terms of market share and the presence of a learning curve and keeping a close tab on the interest rate spread between loans and deposits. Practical implications: The paper highlights the specific factors determining NPL in small developing economy of Fiji. Originality/value: This study is the first to examine specific factors determining NPLs with respect to small developing economies in the Oceania region. © 2018, Emerald Publishing Limited.	Financial markets and Banking sector effects	E
Strunz S., Schindler H.	Identifying Barriers Toward a Post-growth Economy – A Political Economy View	2018	Ecological Economics	In this paper, we take a political economy perspective on barriers that inhibit a transition beyond the growth-paradigm – that is, we frame transition barriers as looming conflicts of interest. Specifically, we investigate potential transition barriers within three case studies. First, unemployment represents the most commonly cited reason why economic growth is considered indispensable. Second, alternative indicators to Gross Domestic Product (GDP) have not succeeded in replacing GDP as a standard metric of economic welfare. Third, pension schemes rely on economic growth to offset demographic change. In each of these three examples, we identify actor-interest constellations that foster the status quo of a growth economy. We conclude that compensating some of those actors who would presumably be worse off in a post-growth economy may be necessary – though not sufficient – for a transition. © 2018 Elsevier B.V.	Policy maker effects	A
Duca J.V., Saving J.L.	What drives economic policy uncertainty in the long and short runs: European and U.S. evidence over	2018	Journal of Macroeconomics	Economic policy uncertainty (EPU) has increased markedly in recent years in the U.S. and Europe, and some have posited a link between this phenomenon and subpar economic growth in advanced economies (see Baker et al., 2016). But methodological and data concerns have thus far raised doubts about whether EPU contains marginal and exogenous information about other economic phenomena. Our work analyzes the impact on EPU of several possibly endogenous variables, such as inflation and unemployment rates in western countries where EPU is measured. We also consider longer-term technological factors, such as media fragmentation, which, by undermining political consensus, may indirectly elevate EPU. We find that about 40 percent of EPU movements can be explained by long- and short-run movements in these determinants, which is consistent with limited	Policy maker effects	E

	several decades			evidence that de-trended movements in EPU may contain marginal information about GDP growth and other macro variables. © 2017 Elsevier Inc.		
Kalay A., Nallareddy S., Sadka G.	Uncertainty and sectoral shifts: The Interaction between firm-level and aggregate-level shocks, and macroeconomic activity	2018	Management Science	This study predicts and finds that the interaction of firm-level and aggregatelevel shocks explains a significant portion of shocks to macroeconomic activity. Specifically, we hypothesize that the relation between uncertainty and economic growth is most pronounced when both firm-level and aggregate-level uncertainty are high simultaneously. Similarly, we hypothesize that aggregate performance affects unemployment most when both firm-level dispersion is high and aggregate performance is low, based on the sectoral shift theory. Our hypotheses and empirical results show that the interactive effect of firm-level and aggregate-level shocks are larger than the sum of the individual effects.	Technological skills and agglomeration economies	E
Ben Mbarek M., Abdelkafi I., Feki R.	Nonlinear Causality Between Renewable Energy, Economic Growth, and Unemployment: Evidence from Tunisia	2018	Journal of the Knowledge Economy	Knowing the real dynamic links between renewable energy use and economic growth is crucial for economic and energy policy decision; we address this issue for Tunisia. This study investigates the nonlinear causality between renewable energy (REG) consumption, economic growth measured by the gross domestic product (GDP), total energy consumption (TEC), and the unemployment rate (UR) on the basis of annual data from 1980 to 2012 by using a nonlinear causality test. Our study reveals different results. This research improves our understanding of the broad effects and impacts of renewable energy stimulus programs in economic development and environmental challenges. © 2016, Springer Science+Business Media New York.	Policy maker effects	E
Pop I.-D., Chicu N., Răduțu A.	Non-performing loans decision making in the romanian banking system	2018	Management and Marketing	Non-Performing Loans (NPLs) are representing nowadays one of the main challenges for the banking systems all over the world. Therefore, a sustainable decision-making process should be implemented, for minimizing the effects of credit risk. The current paper uses a dynamic panel regression model to present the determinants of NPLs for the largest five banks of the Romanian Banking System during 2007-2016. A Generalized Method of Moments (GMM) regression is used and defined under three different types of variables: bank specific indicators, macroeconomic indicators and qualitative variables. Other studies illustrated also the determinants of NPLs in various banking systems from all around the world, such as Japan, China or several CEE countries (especially the emergent ones). After an in-depth analysis of the literature and Romanian market, the following variables were found to be relevant and were introduced into a dynamic data panel model: unemployment rate, annual average growth rate of gross domestic product, return on equity (ROE), loan to deposit ratio (LTD). The existing literature presents ROE as having a negative impact on NPLs, unemployment rate being positive correlated with NPLs and a negative relationship between economic growth and such loans. Our contribution to the current literature is represented by the introduction of two additional qualitative variables (Board Risk Management Ratio (BRMR), as the proportion of risk managers within the Board of Directors of each bank in question and the Expert Aggregate Priority Vector (EAPV), as the aggregated perceived risk regarding the NPLs). The decision of introducing these variables relies on previous research made in this area, results being validated by experts from the Romanian Banking System, according to the BASEL III and NBR criteria. The results of the current paper	Financial markets and Banking sector effects	E

				are consistent with the existent literature, the correlations and impact of the variables being relevant for the subject matter. © 2018, Editura Economica. All rights reserved.		
Blázquez-Fernández C., Cantarero-Prieto D., Pascual-Sáez M.	Okun's law in selected European countries (2005-2017): An age and gender analysis	2018	Economics and Sociology	In this paper the robustness of the Okun's relationship is tested using data from a group of selected European countries during the period 2005-2017, considering different age cohorts and gender. Four macroareas based on geographic location are also considered: Continental Europe, Nordic countries, Southern Europe, and Anglo-Saxon countries. Two traditional models are applied, the first difference and the 'gap' one. The relevant data for the latter model is constructed from the Hodrick-Prescott filter. The empirical results indicate that an inverse relationship between unemployment and output holds for the whole sample and subsamples. Besides, it can be highlighted that these countries show smaller output loss associated with higher unemployment. Additionally, our findings suggest that the oldest population tends to be less exposed to the business cycles. Meanwhile, slight differences along countries and macro-areas are found. Therefore, as disparities in productivity growth are showed, different policies are required for each area. Actually, policymakers should design various ways to increase employment opportunities for diverse groups in society (specific coordinated policies for each necessity): those on specific age cohorts, those working in particular economic activities or those living in specific countries or macro-regions. © 2018, Centre of Sociological Research. All rights reserved.	Initial effects	E
Chen P., Semmler W.	Short and Long Effects of Productivity on Unemployment	2018	Open Economies Review	Okun's (1962) seminal paper is an important study on economic growth and unemployment but a detailed exploration of the effect of productivity growth on unemployment has been left aside. Yet, the relationship between productivity growth and unemployment has been debated since long. In this paper we present stylized facts on the link between productivity growth and unemployment for the short and long run, and present model variants that demonstrate that in the short run productivity growth may increase unemployment while in the long run the relationship between productivity growth and unemployment are likely to co-vary negatively. Using US data, empirically we decompose the time series of unemployment rate and productivity growth into long run and short run components and show empirical evidence that the long run and short run components co-vary as predicted by some theories. © 2018, Springer Science+Business Media, LLC, part of Springer Nature.	Structure change, productivity growth, education and training	F+E
Mahadea D., Kaseeram I.	The relationship between unemployment, entrepreneurship, rising income in South Africa: An	2018	African Journal of Business and Economic Research	Although South Africa has made significant progress in transforming a fragmented apartheid society into a rainbow nation by opening opportunities to all South Africans since the dawn of democracy in 1994, its performance on employment leaves much to be desired. It registered an average economic growth rate of 2.8% during the period 1994-2017. Accompanying this growth, real GDP per capita increased by about 30% over that period to R56,020 in 2017. However, employment growth lagged behind GDP growth, resulting in unemployment at 27% in 2017, with shockingly high youth unemployment (SARB, 2018). Entrepreneurship brings together labour and capital in generating income, output and employment. However, entrepreneurship at the SME level is struggling and not expanding fast enough. Given the policy focus placed on entrepreneurship as a mechanism for addressing unemployment and generating income, this paper seeks to establish the nexus between income, entrepreneurship and unemployment in the post-apartheid period. It explores the link by using Granger causality test, correlation and OLS regression analyses. The results show a strong and significant unidirectional causal	Entrepreneurial activity effects	E

	exploratory study			relationship between entrepreneurship, proxied by Total Entrepreneurial Activity (TEA) and per capita GDP income, suggesting that income growth causes entrepreneurship. The correlation results show a weak positive linear association between the unemployment rate and TEA, and between unemployment and per capita GDP; the regression results reinforce the significant relationship between income and entrepreneurship. © 2018 African Journal of Business and Economic Research. All rights reserved.		
Borsi M.T.	Fiscal multipliers across the credit cycle	2018	Journal of Macroeconomics	This paper studies the differences between fiscal multipliers in OECD economies across the credit cycle. Impulse responses are obtained using a state-dependent model with direct projections, in which multipliers depend on the state of credit markets. Identification of the effects of fiscal stimulus and austerity measures is achieved by distinguishing between unanticipated increases and decreases in government spending. The empirical results imply that the financial environment matters. Expansionary fiscal policies are associated with large multipliers during credit bust episodes, and spending increases likewise foster economic growth in periods of rapid credit expansion, albeit to a lesser extent. In contrast, the output effect of contractionary fiscal policies is never statistically different from zero. Regime-specific multipliers of the individual components of GDP and the unemployment rate suggest that reductions in public expenditure should help constrain the economy during unsustainable credit booms, whereas spending increases in financial recessions should facilitate the repair of private sector balance sheets in order to revive market confidence and boost economic recovery. © 2018 Elsevier Inc.	Policy maker effects	E
Afonso O., Bandeira A.M., Magalhães M.	Labour-market institutions, (un)employment, wages, and growth: theory and data	2018	Applied Economics	We analyse the implications of labour-market institutions on wage inequality in favour of skilled labour, on relative unemployment of unskilled labour, and on the economic growth rate in two clusters resulting from 27 OECD countries: Cluster 1, closely related with the Anglo-Saxon model, and Cluster 2, dominated by the Continental-European model. By linking the unskilled wage to the skilled one in Cluster 2, due to the indexation of social benefits to per-capita income, we accommodate the observed paths of the three variables in both clusters between 1991 and 2008: Cluster 1 presents a higher wage inequality in favour of skilled labour, a lower unemployment of the unskilled labour, and a better economic growth rate. © 2017 Informa UK Limited, trading as Taylor & Francis Group.	Labour market institutions and bargaining structure	F+E
Andrašić J., Kalaš B., Mirović V., Milenković N., Pjanić M.	Econometric modelling of tax impact on economic growth: Panel evidence from oecd countries	2018	Economic Computation and Economic Cybernetics Studies and Research	The research paper provides an empirical evaluation of the tax effects on economic growth in 35 OECD countries from 1996 to 2016. The objective of this paper is to find how taxes effect on the economy, where analysis involves gross domestic product as a proxy for economic growth. Ensuring fundamental econometric procedures, the research paper reflects fixed effect model which measure the impact of tax revenue growth, personal income tax, corporate income tax, social security contributions, tax on goods and services and tax on property on dependent variable as a gross domestic product. The analysis includes main macroeconomic determinants as an inflation, unemployment, government expenditure and investment in observed countries. Results show that 1% increase of tax revenue growth enhances the gross domestic product for 0.29% which is confirmed previous studies that manifested significant and positive relationship between these variables. Further, there is recorded the significant and positive effect of tax on property on economic growth, where 1% increase of this tax form raises a gross domestic product for 0.21%. On the contrary, tax on goods and services have a harmful effect on economic growth, where 1% increase of them cause gross domestic product drop of 0.60%, which is statistically significant. © 2018, Bucharest University of Economic Studies. All rights reserved.	Policy maker effects	E

Kolaříková J., Dvoulety O., Kolařík P.	Economic performance of the NUTS III regions in the Czech Republic in the context of entrepreneurship subsidies from the EU structural funds [Ekonomska učinkovitost regija NUTS III u češkoj u kontekstu poduzetničkih subvencija iz strukturnih fondova EU-a]	2018	Zbornik Radova Ekonomskog Fakultet au Rijeci	Entrepreneurship is considered to be one of the essential factors of economic growth and entrepreneurship policy is considered to be a significant contributor to the regional economic development. The aim of the present paper is to determine whether the unemployment rate and the GDP per capita of the NUTS III regions in the Czech Republic are influenced by the amount of financial subsidies paid to businesses from the Operational Programme Enterprise and Innovation (OPEI). We employed regression analysis and Granger Causality testing in order to evaluate our Hypotheses. Results from the use of econometric models confirmed statistically significant positive impact of OPEI subsidies lagged by one year on the growth of NUTS III GDP per capita. However, we were unable to confirm statistically significant initial impact of OPEI subsidies on the growth of GDP per capita. The hypothesis assuming negative impact of OPEI subsidies on changes of regional unemployment rate was statistically confirmed both initially and with a lag of one year. © 2018, UNIVRIJEKA. All rights reserved.	Policy maker effects	E
Mohan P., Watson P., Strobl E.	Nascent entrepreneurs in caribbean small island developing states: Opportunity versus necessity	2018	Journal of Developmental Entrepreneurship	Nascent entrepreneurship is important for economic growth and development because it often involves new firm creation and innovation. Besides the perceived ability to become an entrepreneur, determined by one's human, social and financial capital, individuals must have a willingness to become self-employed as exhibited by their entrepreneurial motivation. A distinction is made between opportunity or "pull" entrepreneurs who set up a business to take advantage of an identified opportunity and necessity or "push" entrepreneurs who are forced to start a business to escape unemployment or poverty. This paper investigates nascent entrepreneurship in a selection of Small Island Developing States of the Caribbean (SIDS), along with differences between nascent opportunity and necessity entrepreneurs. We use the 2012 Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) for Barbados, Jamaica and Trinidad and Tobago. Probit regressions are used and comparisons between opportunity and necessity driven entrepreneurs are made. The findings indicate that both socio-economic and perceptual factors affect nascent entrepreneurship and do so differently among opportunity and necessity entrepreneurs with important policy implications for encouraging new firm creation. © 2018 World Scientific Publishing Company.	Entrepreneurial activity effects	E
Beck M.	Could unemployment go back to the post-war heyday?	2018	Economic Outlook	The current 'low' rate of unemployment looks less impressive when compared with the 2-3% rates averaged in the 1950s and 1960s. But both then and now share a common driver of low joblessness – pay growth falling unusually short of productivity gains. While the chances of this continuing look stretching, a return to genuine full employment is not completely implausible. Why was unemployment so low in the early post-war period? Given the current uncertainty over how far joblessness can sustainably drop and how this affects monetary policy, our analysis provides useful insights for the situation today. Several explanations have been mooted. A political commitment to full employment is one, although aspiration alone cannot provide a cause. And demand management using fiscal policy is hard to square with the period's modest budget deficits. Meanwhile, booming post-war investment and trade and shortages of labour fail to explain why low joblessness did not quickly trigger rapid rises in pay and inflation. The cause of very low unemployment appears to have sat with wage restraint relative to productivity gains. Unlike most of the last 70 years, real pay growth consistently fell short of productivity	Structure change, productivity growth, education and training	A+E

				rises in the 1950s and part of the 1960s, cutting the cost of workers and ensuring a low 'equilibrium' rate of unemployment. This explanation has parallels with the present day. Since 2010, productivity growth has outstripped real pay rises to an extent not seen since the 1950s. We do not expect this pattern to continue - our forecasts show real pay running slightly ahead of productivity growth over the next five years. But if the factors holding back pay were to persist, alongside a catch-up in UK productivity, a return to a 1950s/60s-style jobless rate is possible, if the MPC did not take fright at further declines in unemployment. © 2018, Blackwell Publishing Ltd. All rights reserved.		
Koomson-Abekah I., Nwaba E.C.	Africa-China investment and growth link	2018	Journal of Chinese Economic and Foreign Trade Studies	Purpose: This paper aims to investigate China–Africa Investment link, using over two decades of FDI's data. During the specified periods, African economic growth path has been predominantly upward trending, despite multiple external threats. This impressive growth was partly because of the growth of FDI stock across the region. This study explores the various sources of FDI to Africa, mainly China's FDI's and how they influence African macroeconomic indicators, i.e. unemployment, export and import activities. Design/methodology/approach: Pesaran autoregressive distributive lag (ARDL) is used as a framework to test the short-run and long-run relationship of indicators. Granger causality test checked the causality between growth and macroeconomic indicators. Findings: The link between China's FDI and African economic growth reported a negative/declining effect in both short and long run. In the long run, the effect of world FDI on growth was significant but not the in the short run. However, US FDI to Africa, China Export and Import from Africa reported an insignificant effect on growth. There was no evidence of Okun's law, as a decrease in Africa unemployment does not increase growth. Overall, China's FDI's inflows to Africa are allocated to capital-intensive activities which has less labor employability. The Granger causality test reported a uni-directional link between growth and all series, except for human capital which experienced no link at all in all directions. Despite the issue of socio-infrastructure militating against growth in the region, African economy is likely to perform better, if more FDI's are channeled into labor-intensive activities, because it has a reductive effect on unemployment. Research limitations/implications: The research considered point annual FDI data but not accumulated stock and is a macro-based study, i.e. regional economy. Practical implications: This paper bridged the literature gap in African investment performance by providing an empirical justification in understanding the inflow of FDI, especially China. This is a useful guard in policy design and implementations in the attraction of the right type of investment, so as to reduce unemployment and promote growth. Originality/value: The authors confirm that this study has not been published elsewhere and is not under consideration in whole or in part by another journal. © 2018, Emerald Publishing Limited.	Policy maker effects	E
Castro V.	Functional components of public expenditure, fiscal consolidations, and economic activity	2018	Economics and Politics	This paper analyses how the functional components of public expenditure and spending-driven consolidations affect the economic growth, unemployment, and income inequality. A dynamic panel data least squares dummy variable estimator estimator is employed over a sample of 15 European Union countries during the period 1990–2012. The empirical results show that real GDP growth decreases when fiscal austerity measures are implemented, especially if they are spending-driven. Cuts in public expenditure undermine economic growth, namely if they slash spending on public order, recreation, and education. Spending cuts on education, in particular, affect the investment in human capital, harming not only growth but also economic, social, and human development. The unemployment rate also proved to be significantly boosted when austerity measures restrict spending on education, whereas income inequality rises when social protection expenditures are cut. © 2017 John Wiley & Sons Ltd	Policy maker effects	E

Authors	Title	Year	Source	Abstract		
Phoong S.Y., Phoong S.W., Tan X.J.	A mediation analysis on level of education and economic growth	2018	Journal of Social Sciences Research	This paper examines the relationship between education and economic growth in Malaysia from 1984 to 2012 which is motivated by the issue of the inefficiency of government's expenditure on education. Specifically, this paper investigates how education levels affect Malaysia's economic growth directly and indirectly through mediators such as unemployment, fertility and technology innovation via mediation analysis. The empirical results show that primary and tertiary education affects economic growth positively, while secondary education gives a negative effect. It is also discovered that the impact of all education levels on economic growth via indirect effects is higher than the direct effects. Tertiary education has the largest total effect among the other education levels on economic growth and its indirect effect on economic growth through lowering unemployment and fertility and increasing technology innovation is found to be significant. © 2018 Academic Research Publishing Group.	Structure change, productivity growth, education and training	E
Arabaci Ö., Arabaci R.Y.	A flexible nonlinear inference to Okun's law for Turkish economy in the last decade	2018	Panoeconomicus	The study applies the flexible nonlinear inference approach of James D. Hamilton (2001) to investigate the relationship between cyclical components of unemployment and output in the Turkish economy where the unemployment rate remains at double digits despite the relatively stable economic environment over the last decade. The paper shows that economic expansion and contraction terms have an asymmetric effect on cyclical unemployment in Turkey. Moreover, the study identifies a specific range for the output gap level at which jobless growth pattern occurs in the Turkish economy. According to our findings, contrary to standard literature, cyclical component of unemployment does not decrease even though cyclical component of output is positive and increases in the middle stages of the upswing phase of the economy. This result may also indicate that the employers are reluctant to extend employment and alter into informalization for reasons such as over-valued domestic currency, surplus labour force and/or any rigid regulatory frameworks in the middle stages of the expansion phase of the economy. However, they become eager to expand employment and renounce informalization only after a certain rate of economic growth is achieved. © 2019, Savez Ekonomista Vojvodine. All right reserved.	Initial effects	F+E
Yun W.S., Yusoff R.	The determinants of public education expenditure in Malaysia	2018	Jurnal Ekonomi Malaysia	The aim of this paper is to investigate the determinants of the public education expenditure in Malaysia during the period of 35 years from 1982 to 2016. This study intends to address the existing research gaps within Malaysia context that failed to receive much attention in the past. The determinants of education expenditure will be modeled using time series data within the autoregressive distributed lag (ARDL) Bound Testing approach and Error Correction Model (ECM) method. The empirical findings from this study identified the real gross domestic product growth rate (GDP), unemployment rate (UNEM), inflation rate (INF) and working age population (POP2) as the long run determinants of public education expenditure. Findings from the ARDL Bound Testing result further supported the Keynesian Counter-Cyclical theory as implied by the negative relationship between economic growth and public education expenditure in the long run. The short run analysis through ECM demonstrated that fluctuations in education expenditure was sensitive to the real gross domestic product growth rate (D(GDP)), unemployment rate (D(UNEM)), population of age less than 15 (D(LNPOP1)), and population of age greater than 64 (D(LNPOP3)). This study further recommends that the policy makers to play the role in responding to the economic conditions and demands of the society in their decision-making of the future allocation. © 2018 Penerbit Universiti Kebangsaan Malaysia All rights reserved.	Policy maker effects	E
Stepanok I.	A North–South model of trade with search unemployment	2018	European Economic Review	In this paper I build a North–South model of international trade, economic growth and search-frictional unemployment in the North. Growth is driven by a process of creative destruction in the North followed by imitation in the South. I study the effects of intellectual property rights protection and trade liberalization on unemployment and welfare in the North. Intellectual property rights protection decreases unemployment and increases welfare. Trade liberalization increases welfare but has an ambiguous effect on unemployment. It decreases unemployment if workers in the North have a high outside option and increases it if their outside option is low. I provide empirical evidence in support of the last result using data for 20 OECD countries. © 2017 Elsevier B.V.	Initial effects	F+E

Hyer L., Kulkarni K.G.	Government expenditure and economic growth: US fiscal policy making	2018	SCMS Journal of Indian Management	This paper analyzes whether and how total government expenditure influences macroeconomic factors. One observation is that in recent years there is a tremendous fiscal stimulus in US economy, and President Obama's administration could have been the most "Keynesian" in its behavior. The paper is divided into 6 sections, with subsections for the different dependent variables. The review of relevant literature is Section 2 exploring what other contributors used in their study. Section 3 simply explores the econometric model and what the variables are and why they have been chosen. The exploration of the raw data in Section 4 with the analysis of reasons and explanation for possible variances in the data. The results and exploration of the possibilities are in section 5. The main conclusions are presented in Section 6, stating what the results mean to the original hypothesis, setting the precedent of where the possible avenues for new research can go in determining what aspects effect GDP, GDI and Unemployment. Ultimately, it has been concluded that it has a statistically small impact on everything besides GDP. © SCMS Journal of Indian Management. All rights reserved.	Policy maker effects	F+E
Chen H.-J., Liu D., Liu X.	Social Status, Labour Market Frictions and Endogenous Growth	2018	Japanese Economic Review	This paper develops an endogenous growth model that incorporates wealth-enhanced preferences for social status and labour market frictions to investigate the role of social status in determining unemployment and long-run growth. We show that the increase in the desire for social status reduces the unemployment rate, but its effect on long-run growth is unclear. We then calibrate our model to the US economy and find that an increase in the desire for social status lowers the unemployment rate and enhances the economic growth rate in the long run. © 2017 Japanese Economic Association	Other effects	F+E
Adamu P., Kaliappan S.R., Bani Y., Nor N.M.	Impact of globalization on unemployment in Sub-Saharan African (SSA) countries	2018	International Journal of Economics and Management	This study examined the impact of globalization on unemployment in 35 countries in Sub-Saharan African for the period 2007-2014. The study period and number of countries used are based on data availability. The system generalized method of moments estimation technique was applied because unemployment is considered a dynamic phenomenon. The empirical findings shows that aggregated globalization measures (economic, social and political) significantly impact unemployment rate in SSA while among the components of globalization, only political globalization reduces unemployment. Economic growth rate and labour market regulations are significant and negatively related to unemployment while wage rate and inflation increases the rate of unemployment. Maintaining a low level of inflation is key to address the unemployment problems because the results suggest that stagflation exist in the case of SSA at the moment. Therefore, policies aimed at reducing the rate of unemployment should focus on low inflation rate, political globalization, labour market regulation and economic growth. Policies should also ensure that the regulations of the labour market are more flexible so as to benefit from globalization which can impact significantly on unemployment rate. © 2018, Universita Putra Malaysia.	Policy maker effects	E
Lebedeva L.F.	Creating jobs under Trump's policy: Priorities, realities and risks	2018	World Economy and International Relations	The promises of D. Trump to return jobs to the American workers put the problems of employment in the focus of his economic policy. After the Trump's first year in White house the job market feels nice with employment indicators growing and unemployment going down. The Tax Cuts and Jobs Act (2017) makes it more attractive to do business both for the American and foreign firms in the United States; and benefits those American companies that do their business at home. There is little doubt that lowering taxes, limiting regulation can reduce employer's costs, and stronger economic growth would increase employment opportunities. However, this process cannot stop long run trends of globalization; technological, demographic influence on the labor force participation, jobs polarization. The US economy has long been moving away from mining and manufacturing industries towards service sectors with less median wage and lower access to employer's benefits, to medical, pension and other programs. The paper focuses on job polarization with rising inequality between different groups of employees. The structure of employment in the US had sharply polarized over the past two decades by qualification, education; with expanding job opportunities, both for high-skill and low-skill occupations and decreasing opportunities for middle-skill workers. Meanwhile the tax cuts and regulation cuts are coming hand in hand with budget cuts for supporting education and training which could weaken the possibilities of low income persons to gain education and skills that the labor market values. So far, current administration's policy may deliver impulse for more jobs, coming with economic growth, but eventually the social bad political polarization of	Policy maker effects	A

				America may become deeper after Trump's presidency than before. © 2018 Nauka Publishing House. All rights reserved.		
Gouider A., Gabsi S.	Mechanical functioning of the Saudi economy in the context of the national transformation plan and its impacts on macroeconomic variables in Saudi Arabia	2018	International Journal of Economics and Business Research	The aim of this paper is to investigate the mechanical functioning of the Saudi economy in the context of the national transformation plan (NTP) and its impacts on most of the macroeconomic variables in Saudi Arabia. In line with the NTP, which is based mainly on promoting economic freedom, we apply the fully modified ordinary least square (FMOLS) approach to measure the impact of the economic freedom on non-oil GDP (proxy of economic growth) through the transmission channels including foreign direct investment (FDI), openness, government spending and unemployment from 1996 to 2015. The empirical results show that there is a significant positive relationship between economic growth and economic freedom in Saudi Arabia. However, the transmission channels' effects of the economic freedom index on the non-oil GDP in Saudi Arabia are slightly low. We suggest that policy-makers should implement more incentive measures to improve the Saudi economy rank within the economic freedom index. Copyright © 2018 Inderscience Enterprises Ltd.	Policy maker effects	E
Jan?ek K., Jan?ková S.	The threat of secular stagnation [Hrozba sekulární stagnace]	2018	Politicka Ekonomie	Advanced countries are losing their predominant position in the world economy. With the longtime productivity slowdown and the present long recession, a question arises about the threat of secular stagnation of the advanced world. In searching for the roots of this threat, leading world economistst accentuate either the demand side, or the supply side of the economy. In this respect, the authors add globalization as another important factor. Globalization has resulted in long-term global and internal imbalances, and caused deep problems in the advanced countries - deindustrialization, unemployment, growing dependence on the social safety net, and a permanent increase of government intrusion into the economy. After the 2008 crisis, fiscal and monetary policy concentrates on short-term support of economic recovery, leaving aside the deeper long-term deficiencies. With multiple negative trends acting in the same direction, the threat of secular stagnation should not be overlooked.	Policy maker effects	A

Dvouletý O.	Can policy makers count with positive impact of entrepreneurship on economic development of the Czech regions?	2017	Journal of Entrepreneurship in Emerging Economies	Purpose: The purpose of the present study is to empirically investigate the impact of the newly established entrepreneurial activity on economic development of the Czech NUTS 3 regions during the period of years 2003-2015. Design/methodology/approach: An econometric approach was used to validate the stated hypotheses assuming a positive relationship between the new entrepreneurial activity and regional economic growth and a negative relationship between the new entrepreneurial activity and unemployment rate. For the methods, regression models with fixed effects were estimated on the panel that included 13 Czech regions, covering the period of years 2003-2015. The new entrepreneurial activity was classified into two forms – rate of newly established self-employed set-ups per capita and rate of newly established business companies and partnership set-ups per capita. Findings: Different impacts of newly established business companies and the self-employed were found on real gross domestic product (GDP) per capita. Only the higher rates of newly established business companies and partnership were associated with higher levels of GDP per capita in the Czech regions, and no impact was found for the rate of new self-employed set-ups. Nevertheless, both forms of newly established entrepreneurial activity were associated with lower unemployment rates in the Czech regions; however, the impact of newly established business companies was significantly higher. The obtained results have several policy implications, which are discussed in the present paper. Practical implications: Support of entrepreneurship in the Czech regions may improve the situation on the local labour markets and may deliver new job opportunities through the newly established enterprises. The Czech entrepreneurship policies focused on the growth of GDP and economic boom should be oriented more on the support of high-growth enterprises (unicorns). Originality/value: The empirical analysis was conducted on the basis of the research gap in the studies related to the impact of the newly established entrepreneurial activity on the economic development of the Czech regions. Obtained results have several policy implications, which are discussed in the present paper. © 2017, © Emerald Publishing Limited.	Entrepreneurial activity effects	E
Dixon R., Lim G.C., van Ours J.C.	Revisiting the Okun relationship	2017	Applied Economics	Our article revisits the Okun relationship between observed unemployment rates and output gaps. We include in the relationship the effect of labour market institutions as well as age and gender effects. Our empirical analysis is based on 20 OECD countries over the period 1985–2013. We find that the share of temporary workers (which includes a high and rising share of young workers) played a crucial role in explaining changes in the Okun coefficient (the impact of the output gap on the unemployment rate) over time. The Okun coefficient is not only different for young, prime-age and older workers but also it decreases with age. From a policy perspective, it follows that an increase in economic growth will not only have the desired outcome of reducing the overall unemployment rate but it will also have the distributional effect of lowering youth unemployment. © 2016 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.	Labour market institutions and bargaining structure	E
Matuzeviciute K., Butkus M., Karaliute A.	Do technological innovations affect unemployment? Some empirical evidence from European countries	2017	Economies	This paper analyses theoretical and empirical scientific literature about the impact of technological innovations on unemployment, considering the former as a key driver of long-term productivity and economic growth. Using panel data from 25 European countries for the period of 2000–2012, we aim to examine whether technological innovations affect unemployment. We used triadic patent families per million inhabitants as our main proxy for technological innovations, as well as other unemployment controls, in our model, which were estimated using System Generalized Method of Moments (SGMM). Finding no significant relationship between technological innovations and unemployment in our base estimation, we re-estimated it testing the impact with a time lag as well as using alternative proxies for technological innovations. Overall, the research estimations do not suggest that technological innovations have an effect on unemployment. © 2017 by the authors.	Structure change, productivity growth, education and training	A+E

Jung S., Lee J.-D., Hwang W.-S., Yeo Y.	Growth versus equity: A CGE analysis for effects of factor-biased technical progress on economic growth and employment	2017	Economic Modelling	With factor-biased technical progress described as labor-saving and skill-biased technical changes, there are concerns that technological innovation can lead to unemployment and widen inequality in the economy. This study explores impacts of factor-biased technical changes on the economic system in terms of economic growth, employment, and distribution, using a computable general equilibrium (CGE) model. The results show that technological innovation contributes to higher level of economic growth with productivity improvements. However, our analysis suggests that economic growth accompanied by skill- and capital-biased technical progress disproportionately increases demand for capital and high-skilled labor over skilled and unskilled labor. This shift in the value-added composition is found to deepen income inequality, as more people in higher income groups benefit from skill premium and capital earnings. Our results suggest that policymakers should prepare a wide range of policy measures, such as reforms in educational programs and taxation systems, in order to ensure sustainable growth. © 2016 Elsevier Ltd	Structure change, productivity growth, education and training	F+E
Abu N.	Does okun's law exist in nigeria? Evidence from the ardl bounds testing approach	2017	Contemporary Economics	This study employs the autoregressive distributed lag (ARDL) bounds testing technique to examine whether Okun's law exists in Nigeria during 1970-2014. In addition, this study considers the role of oil prices in the Nigerian economy. The empirical results indicate that a cointegrating or long term relationship exists between the unemployment rate, economic growth and oil prices. In addition, the results demonstrate that in Nigeria, in the long term, unemployment has a negative and significant effect on economic growth, and oil prices have a significant and positive effect on economic growth. The coefficient of unemployment (0.18%) for this study is far less than the result reported by Okun and other studies that focused on developed countries. This suggests that the Okun coefficient is not only unstable but varies for different countries, and does not remain constant for Nigeria. However, policymakers should take steps to reduce unemployment to enhance economic growth in Nigeria. © 2017, University of Finance and Management in Warsaw. All rights reserved.	Initial effects	E
Amiri S., Woodside J.M.	Emerging markets: the impact of ICT on the economy and society	2017	Digital Policy, Regulation and Governance	Purpose: The purpose of this research is to quantifiably measure the relationship between technological advancement, economic growth and societal employment trends across the Brazil, Russia, India and China (BRIC) countries, while also describing various government initiatives and policy steps taken to promote technology development. Design/methodology/approach: This paper examines the relationship between the United Nations' International Telecommunication Union's Information and Communication Technology (ICT) development Index (IDI), gross domestic product (GDP) and unemployment data. The paper also reviews the broadband and e-readiness components of each BRIC nation to further describe the policies in adoption of ICT. Findings: This research concludes that there is in fact a significant positive correlation between technology (as measured by IDI) and economy (as measured by a nation's GDP) and there is a significant negative correlation between technology (as measured by IDI) and a nation's unemployment rate benefiting the society. Originality/value: This research seeks to describe the impact of Information Communication Technology on economic and society indices in BRIC. Paper contributions include an empirical measurement and relationship between technological advancement, economic growth and employment trends across the BRIC countries, while also describing various government policy initiatives taken to promote technology. © 2017, © Emerald Publishing Limited.	Technological skills and agglomeration economies	
Qazi W., Raza S.A., Sharif A.	Higher Education Development and Unemployment in Pakistan: Evidence from Structural Break Testing	2017	Global Business Review	This study investigates the relationship between higher education development and unemployment in Pakistan by using the annual time series data from the period of 1973 to 2013. The ARDL bound testing cointegration approach, Johansen and Juselius cointegration approach and Gregory and Hansen structural break cointegration approach confirm the valid long-run relationship between higher education development and unemployment. Results of long-run analysis indicate the negative and significant impact of higher education development on unemployment in Pakistan. Results of variance decomposition method confirm the valid unidirectional causal relationship of higher education development with unemployment in Pakistan. The direction of a causal relationship is run from higher education development to unemployment. Results of rolling window analysis show that the coefficient of higher education development has remained negative for last 15 years since 1999. It is clear from our findings that higher education commission plays an important role in creating the employment opportunities in Pakistan, which also leads to economic growth. It is recommended that policy makers should	Structure change, productivity growth, education and training	E

Jili N.N., Masuku M.M., Selepe B.M.	SMMEs promoting Local Economic Development (LED) in UMlalazi Local Municipality, KwaZulu-Natal	2017	African Journal of Hospitality, Tourism and Leisure	The purpose of this paper is to assess the role of Small Medium and Micro Enterprises (SMMEs) such as tourism and hospitality enterprises for example, towards promoting Local Economic Development (LED) in rural areas within UMlalazi Local municipality (ULM), Kwa-Zulu Natal, South Africa. South Africa is facing the challenge of a high rate of unemployment which leads to poverty amongst many households, particularly in rural areas. In response to unemployment and poverty reduction, people in rural areas established SMMEs to earn a living. SMMEs are regarded as a major source of income generation and strategy for poverty alleviation in most rural areas. The objective of the study was to assess whether SMMEs contribute towards enhancing LED including reducing unemployment rates and contributing towards economic growth in ULM. This study was exploratory using a quantitative research method to collect and analyse data. It administered 100 questionnaires to SMMEs owners and workers in the area in question. The study found that SMMEs within the case study play a dominant role in reducing the unemployment rate and alleviating rural poverty. It also revealed that challenges are faced by SMMEs which sometimes lead to the shutting down of businesses because these challenges hinder their social and economic growth. The study recognise that SMMEs in rural areas have contributed towards LED, but the lack of information on how they can get support from stakeholders and government institutions in order to grow and develop both social and economically remain a problem. The study recommended that ULM should consider using Public-private partnership (PPP) so that they can be aided to give more needed support to SMMEs. © 2017 AJHTL.	Entrepreneurial activity effects	E
Simionescu M., Bilan Y., Mentel G.	Economic effects of migration from Poland to the UK	2017	Amfiteatru Economic	Considering that large numbers of the EU-8 immigrants was a strong argument for the Brexit, the objective of this paper is to assess some economic effects of migration from Poland to the UK for both countries. Intensive emigration of the Poles to the UK since 2004 negatively affected Poland's economic growth in the long run, but it also reduced tensions at the labour market by decreasing the unemployment rate. On the other hand, the increase in Polish immigrants in the UK did not significantly affect economic growth and unemployment rate in the destination country in the short run in the period 2004-2015. A significance influence was observed only in the long run, when the UK economic growth decreased, but the pressures on the labour market significantly reduced. From these empirical findings, some policy recommendations are required for both countries: for Poland, migration policies to promote the return of migrants and more efficient utilization of labour force, while for the UK - shaping a more flexible labour market.	Migration and Brain Drain	E
Dutt A.K.	HETERODOX THEORIES OF ECONOMIC GROWTH AND INCOME DISTRIBUTION: A	2017	Journal of Economic Surveys	Heterodox theories of economic growth and income distribution are surveyed, focusing on major theories and recent contributions. First, a general framework for examining growth and distribution is discussed, in terms of which classical-Marxian and post-Keynesian–Kaleckian and other theories are presented. Since this framework examines how variables are determined in equilibrium, second, dynamics behind equilibria are examined, focusing on goods market and labor market changes. Third, the framework is extended in a variety of ways to examine additional models addressing productivity growth and technical change, money and inflation, finance and debt, additional distributional considerations, multisector issues, open economy questions, and the environment. It is concluded that the literature on heterodox theories of growth and distribution is vibrant, large, and growing, and addresses many issues that are ignored or neglected in orthodox theories, including power, unemployment, and aggregate demand. © 2017 John Wiley & Sons Ltd.	Inequality and income distribution	S

	PARTIAL SURVEY					
Ibragimov M., Ibragimov R.	Unemployment and output dynamics in CIS countries: Okun's law revisited	2017	Applied Economics	Okun's law is a well-known relationship between the change in the unemployment rate and output growth. The main objective of this article is to provide a rigorous econometric analysis of Okun's law for several CIS countries using different models and theoretically justified econometric methods. The traditional approach to Okun's law estimation using OLS regressions does not account for possible endogeneity of regressors and the implied inconsistency of the estimates obtained. These problems point out to incorrectness of applications of the standard OLS estimation techniques. Our study addresses these issues by using econometrically justified instrumental variable regression methods. The article provides the results and discussions on practical use of Okun's relationships for evaluation of average effects of economic growth on the unemployment rate, and vice versa; importance of accounting for confidence intervals in applications of Okun's models to economic development analysis and cross-country comparisons and evaluation of effects of crises and other structural shocks on the economies considered. We also discuss in detail the results of formal econometric tests and economic motivation for validity of instrumental variables used in the study. The formal econometric tests, together with economic arguments, allow us to determine the most appropriate Okun-type models for each of the CIS countries under consideration. © 2016 Informa UK Limited, trading as Taylor & Francis Group.	Initial effects	A+E
Fetai B.T., Mustafi B.F., Fetai A.B.	An empirical analysis of the determinants of economic growth in the western balkans	2017	Scientific Annals of Economics and Business	The objective of this paper is to assess the main determinants and the policies that affect economic growth in the Western Balkan over the period 1994 to 2015. It employs techniques such as pooled OLS, fixed and random effects model, and Hausman-Taylor model with instrumental variables (IV). The study shows evidence of conditional convergence, indicating the need for an upward move in the steady state level. The results show that foreign direct investments, gross savings and domestic credit to the private sector have a positive effect on per capita growth. On the other hand, initial level of per capita growth, corruption, unemployment, and general government final consumption, have a negative relationship with per capita growth. The study also shows a puzzling result, that schooling is not a significant factor for growth in Western Balkans. The study also highlights the relevance of attracting more foreign direct investments and reduction in corruption.	Policy maker effects	E
Akalpler E., Shamadeen B.	The role of net export on economic growth in United States of America	2017	Journal of Applied Economic Sciences	The study analyses the role of net exports on economic growth in the United States of America (USA). This was necessitated by the resounding economic resilience that has been experienced by the USA and assertions have pointed to net exports but have also attracted different assertions from other studies. As such the study sought to analyze the role of net exports on economic growth with regards to the USA. The study was conducted using secondary data collected from the 1970: Q1 – 2015: Q1 and was analyzed using a Vector Error Correction Model (VECM). The results from the study showed that there is a long run co-integration between net exports and economic growth in USA. Import levels and unemployment were observed to be negatively related to economic growth. © 2017, ASERS Publishing House. All rights reserved.	Other effects	E
Tasseven O.	The relationship between economic development and female labor force participation	2017	Contributions to Economics	In economics, any production function is composed of capital labor and technology inputs. In the gross domestic product (gdp) growth of an economy labor seems to be an important input. Therefore, a country's economic growth depends mainly on labor supply. In order to attain economic growth and development, an optimal choice of male and female labor force participation is necessary. Besides cultural and sociological factors, economic, education and health factors are the main issues affecting labor force participation in developing as well as developed countries. The objective of this chapter is to analyze the determinants of female labor force participation which are per capita gross domestic product, unemployment rate, ratio of female to male primary enrollment, ratio of female to male secondary enrollment, ratio of female to male tertiary enrollment, fertility rate and life expectancy	Other effects	E

	rate: A panel data analysis			of females at birth. The data used in this analysis belongs to World Bank database for G8 countries between 1995 and 2013. The results show that unemployment has a discouraging effect on female labor force participation rate. The gross domestic product and education are found to affect female labor force participation positively. © Springer International Publishing AG 2017.		
Svilokos T., Burin I.	Financializati on and its impact on process of deindustrializ ation in the EU [Financijaliza cija i njen utjecaj na proces deindustrijaliz acije u zemljama Europske unije]	2017	Zbornik Radova Ekonomskog Fakultet au Rijeci	The aim of this research is to examine whether and to what extent the process of financialization has an impact on the process of deindustrialization in the European Union, employing a fixed-effect panel regression model. In this paper exogenous explanatory variable that indicates the level of financialization is presented by the value added of the finance sector as a percentage of total value added, and by the employment in the finance sector as a percentage of total employment. In a process of deindustrialization, the industrial activity is usually replaced by service activities. However, situations where the service sector has not been able to absorb the additional supply of labour and to produce additional values that would compensate the reduction in the industrial sector, could have led to higher unemployment and lower economic growth. In this paper, deindustrialization is measured by the value added of industry sector as a percentage of total value added, and by the employment in industry as a percentage of total employment. Using latest panel data from EUROSTAT and ILO for the period from 1995 to 2015 author detects the significant and negative impacts of the process of financialization on value added of industry sector, as well as on the employment in the industry sector. This supports the conclusion that the process of deindustrialization of the EU countries can be characterized as a financializationled process. © 2017, UNIVRIJEKA. All rights reserved.	Structure change, productivity growth, education and training	A+E
Anderton R., Hantzsche A., Savsek S., Tóth M.	Sectoral Wage Rigidities and Labour and Product Market Institutions in the Euro Area	2017	Open Economies Review	We estimate wage Phillips curve relationships between sectoral wage growth, unemployment and productivity in a country-industry panel of euro area countries. We find that institutional rigidities – such as labour and product market institutions and regulations – limit the adjustment of euro area wages to unemployment, in both upturns and downturns, particularly in manufacturing and, to a lesser extent, in the construction and service sectors. In addition, there are further limitations in the response of wages to changes in unemployment during economic downturns which suggests that euro area wages are also characterised by significant downward wage rigidities, especially in the manufacturing sector. These results are robust to specifications that account for factors that may affect structural unemployment (such as duration-dependent unemployment effects), as well as changes in the skill composition of employment that may affect the evolution of aggregate wages. The results also hold for panels including or excluding the public sector (where wages may be determined differently to the private sector also due to the effects of fiscal consolidation on public sector wages during the crisis). From a policy perspective, reforms in product and labour markets which reduce wage rigidities can facilitate employment growth and enhance the rebalancing process in the euro area. © 2017, Springer Science+Business Media, LLC.	Labour market institutions and bargaining structure	E
Siddiqui S., Jan S.	Developing Entrepreneur ial Intensity among Women Entrepreneur s of Jammu & Kashmir: Model Building	2017	Vision	In developing nations like India, entrepreneurship can be a solution of many economy-related problems; to achieve this, high level of entrepreneurial intensity (EI) is to be ensured. EI measures the focus and commitment of an entrepreneur towards his/her venture. It can influence performance of firms, provide sustainable advantage to individuals, societies etc. The state of Jammu and Kashmir (J&K) is facing issues like low GDP and high unemployment. High level of EI, especially among women, can provide solution to many of its problems. So, the present endeavour assesses the level of intensity among the women entrepreneurs and then suggests some measures to enhance the same. The results of the study show that innovativeness, pro-activeness, risk-taking, competitive aggressiveness and autonomy, which are taken as the basic postulates of EI in study, show significant loading. Although women entrepreneurs tend to show pro-activeness and competitive aggressiveness strongly, it is innovativeness, risk-taking and autonomy are not good fit. This study proposes a model for training for the	Entrepreneu rial activity effects	E

	through Confirmatory Factor Analysis			women entrepreneurs to improve their level of EI to accelerate the growth of entrepreneurship in the state. This will in turn enhance the overall economic growth of the state. © 2017, © 2017 Management Development Institute.		
Oliver D., Yu S.	The Australian labour market in 2016	2017	Journal of Industrial Relations	The Australian labour market in 2016 was characterised by fragmented improvements. While headline economic growth has strengthened, a pessimistic business environment has been accompanied by patchy employment growth. This growth has been driven by male part-time employment and roles in the lower wage segments of the labour market, including clerical, community service and manual labour occupations. While the unemployment rate has fallen and retrenchments have dropped across the labour market, youth unemployment remains stubbornly high, while older job seekers have become more likely to fall into long-term unemployment. High youth unemployment has stimulated debate about the role and regulation of unpaid work experience, while popular commentary about the effects of automation on the labour market is yet to appear in the statistics. Wage growth remains very subdued. © 2017, © Australian Labour and Employment Relations Association (ALERA), SAGE Publications Ltd, Los Angeles, London, New Delhi, Singapore and Washington DC.	Labour market institutions and bargaining structure	E
Mendieta-Muñoz I.	On the interaction between economic growth and business cycles	2017	Macroeconomic Dynamics	The present paper studies the interaction between short-run business cycle fluctuations and economic growth at the empirical level. We identify a measure of potential output with that rate of growth consistent with a constant unemployment rate, and we estimate the effects of GDP growth rates on the latter in 13 Latin American and 18 OECD countries during the period 1981-2011. The results of both parametric (OLS/IV and a panel estimator that allows for parameter heterogeneity and cross-section dependence) and nonparametric (a penalized regression spline estimator) econometric techniques show that the measure of potential output experiences positive (negative) changes in periods of high (low) growth in the majority of countries. However, in contrast to the sample of OECD countries, we find that less than half of the sample of Latin American countries experience statistically significant changes in this measure of potential output in periods of low growth. Copyright © 2016 Cambridge University Press.	Initial effects	E
Marinda A., Nasikh, Mukhlis I., Witjaksono M., Utomo S.H., Handoko, Wahyono H., Soesilo Y.H., Moeheriono, Santoso S.	The analysis of the economic growth, minimum wage, and unemployment rate to the poverty level in East Java	2017	International Journal of Economic Research	This study aims to analyze the economic growth, minimum wage, and unemployment rate to the poverty level in East Java. This study is a quantitative study using the panel data. Moreover, this study uses the time series data from 2012 to 2014 and the cross-section data from 29 districts and 9 cities in East Java. The data used are the secondary data obtained from Badan Pusat Statistik (BPS) or the Central Bureau of Statistics. The method employed in this study is the regression analysis by using the fixed effect panel data. The research finding shows that the economic growth and the minimum wage negatively affect the poverty level, nonetheless the unemployment positively affects the poverty level. Simultaneously, the economic growth, minimum wage, and unemployment rate affect the poverty level in East Java. © 2017 Serials Publications Pvt. Ltd.	Policy maker effects	E
Biltagy M., Mahrous M., Said M., Kamel M.	Entrepreneurship, unemployment and economic growth: Evidence from Egypt	2017	Journal of Applied Economic Sciences	This paper focuses on studying whether entrepreneurship affects or is affected by unemployment, economic growth, and inflation in Egypt during the period 1993-2013. In the empirical analysis, an econometric time series model is presented by applying the Vector Autocorrelation (VAR) modelling approach in order to estimate the desired relationship and capture the short run dynamics. Self-employment rate is used as a proxy for entrepreneurship, and real GDP growth rate is used as a proxy for economic growth. Empirical results suggest that entrepreneurship has a significant positive effect on both economic growth and inflation, while it has a significant negative effect on unemployment; which supports the Schumpeter effect, but not vice versa. © 2017, ASERS Publishing House. All rights reserved.	Entrepreneurial activity effects	E

Grieben W.-H., Şener F.	Wage bargaining, trade and growth	2017	Research in Economics	We construct a North-South product-cycle model of trade with fully-endogenous growth and union wage bargaining. Economic growth is driven by Northern entrepreneurs who conduct R&D to innovate higher quality products. Northern production technologies can leak to the South upon successful imitation. The North has two sectors: a tradable industrial goods sector (manufacturing) where wages are determined via a bargaining process and a non-tradable sector (services) where wages are flexible. The South has only a tradable industrial goods sector where wages are flexible. We find that unilateral Northern trade liberalization, in the form of lower Northern tariffs on industrial goods, increases the rate of innovation but decreases both the bargained wage in the industrial sector and the flexible wage in the service sector. The wage effects are relative to the Southern wage rate. We also consider a variant of the model with Northern unemployment, driven by a binding minimum wage in the non-tradable service sector. In this case, Northern tariff cuts decrease the innovation rate and the bargained wage rate. In addition, the Northern unemployment rate increases. The model thus highlights the role of labor market institutions in determining the growth and labor market effects of tariff reductions. We also study the effects of unilateral Southern trade liberalization. © 2017 University of Venice	Labour market institutions and bargaining structure	F
Pernica M.	Evaluation of the adequacy of government minimum wage valorization policy in the Czech Republic in 2017 in the european context	2017	Oeconomia Copernicana	Research background: The government of the Czech Republic has agreed to an increase in the minimum monthly wage as of the beginning of 2017 to 11,000 CZK, which represents a year-over-year increase of over 11 %. The government is thus fulfilling its objective set out in February 2014 and stipulated in the Government Statement of Purpose, i.e. to approximate the minimum wage to 40 % of average wages. Purpose of the article: The purpose of the article is to assess the adequacy of the Government Minimum Wage Valorization Policy, in particular from two points of view. Firstly, in view of selected macro-economic indicators in the Czech Republic — the development of consumer prices, average gross wages, economic growth and workforce productivity. Secondly, in comparison with other EU member states which have introduced the institution of a minimum wage. Methods: In order to assess the adequacy of government policy to improve the social protection of the rights of the working population, a background research was conducted into the literature of important studies on the effects of minimum wages on unemployment, while the development of average gross wages in the CR, the minimum monthly wages in the CR and the Kaitz index were also analyzed. Furthermore, an evaluation of selected macroeconomic indicators in the Czech Republic was performed by means of time lines and the percentage representation of employees in the individual gross wage bands according to sex and type of economic activity. Last, but not least, a comparison was made of minimum wages, real gross domestic product per capita and workforce productivity in Euros and in purchasing power standards between the Czech Republic and countries which have enacted the institution of minimum wages. Findings Value added: The minimum wage in the Czech Republic is the fifth lowest in the EU. In the long term, it is earned by approximately 3% of employees, which is less than the rate common in other EU countries. Currently, the amount of the minimum wage is below the threshold of income poverty. In comparison with the GDP per capita in PPS and real labour productivity per person employed in other EU countries, the position of the Czech Republic is significantly better, although other EU countries offer higher minimum wages. The decision of the current government to significantly increase the minimum wage as of 2017 is correct. © 2017 Oeconomia Copernicana. All rights reserved.	Policy maker effects	E
Dimian G.C., Begu L.S., Jablonsky J.	Unemployment and labour market mismatch in the Ruropean Union Countries [Nezaposlenost i nepodudarno	2017	Zbornik Radova Ekonomskog Fakultet au Rijeci	The purpose of this paper is to investigate some of the main drivers of high unemployment rates in the European Union countries starting from two sources highlighted in the economic literature: the shortfall of the aggregate demand and the increasing labour market mismatches. Our analysis is based on a panel database and focuses on two objectives: to measure the long and short-term impact of GDP growth on unemployment over recent years for different categories of labour market participants (young, older and low educated workers) and to evaluate the relationship between mismatches related to skills (educational and occupational) and unemployment. One of the main conclusions is that unemployment rates of young and low educated workers are more responsive to economic growth variations both in the long and short run, while unemployment rates of older workers show a greater capacity of adjustment. In addition, occupational mismatches seem to have a significant long-term impact on the changes in unemployment of all categories of unemployed, whereas the short run effect is rather mixed,	Labour market institutions and bargaining structure	A+E

	st tržišta rada u zemljama Europske Unije]			varying across countries. One explanation is the fact that during crisis, economy's structure tends to change more rapidly than labour market and educational system can adapt. © 2017, UNIVRIJEKA. All rights reserved.		
Agudelo S.A., Sala H.	Wage rigidities in Colombia: Measurement, causes, and policy implications	2017	Journal of Policy Modeling	This paper evaluates the extent of wage rigidities in Colombia over a period, 2002–2014, in which the fall in unemployment was relatively slow with respect to sustained economic growth. Following Holden and Wulfsberg (2009), we compute a measure of downward real wage rigidity (DRWR) of 12.09%, four times bigger than their aggregate estimate for the OECD economies. Moreover, in contrast to the evidence for the advanced economies, the determinants of such rigidities show no connection to the wage bargaining system. Amid the absence of effective labor market institutions to make rigidities less prevalent, economic growth appears as the most powerful mechanism to ward them off. Under this light, we provide a stylized description of the wage setting rule in Colombia, compare it with the common one in the advanced economies, and call for a far-reaching reform of the Colombian wage bargaining setup. © 2017 The Society for Policy Modeling	Labour market institutions and bargaining structure	E
Amor M.B., Hassine M.B.	The relationship between unemployment and economic growth: Is Okun's Law valid for the Saudi Arabia case?	2017	International Journal of Economics and Business Research	We seek in this paper a validity of Okun's Law for Saudi Arabia over the period 1980 to 2015. Firstly, the natural unemployment rate was determined either by applying the linear regression between the observed unemployment rate and the economic growth rate or by the modified Phillips curve. Secondly, this relationship is undertaken by using the first difference and the gap model with Hodrick-Prescott (HP) filter. Using a rather new econometric approach promoted with autoregressive distributed lag, the results reveal cointegrated relationship among variables. They corroborate the Okun's Law and exhibit the relevance of causality links for economic policy decisions regarding employment. In the long-run, they indicate a significant unidirectional causality between the unemployment rate and the real output. A 1% increase in the real output for the gap (difference) model leads to a decrease in the unemployment rate by about 0.33% (0.54%), ceteris paribus. © 2017 Inderscience Enterprises Ltd.	Initial effects	E
Sanusi F.	The effect of minimum wages, inflation rate, human resources quality, economic growth toward productivity of labor force and its implication to education unemployment rate in South	2017	Journal of Applied Economic Sciences	A study carried out in order to know the effect of directly or indirectly between the minimum wage, inflation, human resources and economic growth of the productivity of labor and educated unemployment rate is implemented in the province of South Sulawesi in September-November 2014. Data collection method used is library research is research through several books, literature or scientific explanations to obtain underlying theories in analyzing the data obtained from the study site. Search data is done by using the documentation by way of recording data reports that have been published and literature. For estimation models used in this study is a model of simultaneous equations using path analysis (Path Analysis) to see the effects of direct and indirect effects of the minimum wage, inflation, human resources and economic growth on work productivity and the unemployment rate of educated using WarpPLS. Analysis result concluded that the minimum wage, inflation rate and quality of human resources (HR) effect on the rate of educated unemployment in the province of South Sulawesi, either directly or indirectly through labor productivity. While economic growth variables did not provide significant direct effect on the unemployment rate of educated, but the indirect effect through productivity. © 2017, ASERS Publishing House. All rights reserved.	Structure change, productivity growth, education and training	E

Authors	Title	Year	Source	Abstract	Category	
	Sulawesi-Indonesia					
Yelwa M., Jimaza M., Sakanko M.A.	Impact of the informal sector on economic growth in Nigeria: 1984-2014	2017	Nigerian Journal of Economic and Social Studies	One of the most viable sectors that is perceived to significantly improve the livelihood of the majority is the informal sector. It not only provides business opportunities but also means of livelihood and income and this has led to the rapid growth of the informal sector in Nigeria. Since independence, Nigeria has experienced numerous challenges such as high levels of unemployment, poverty, and political instability and these challenges have adverse effects on informal sector operators. This study examined the impact of the informal sector on economic growth in Nigeria from 1985 to 2015, using the Error Correction Model (ECM). The variables that were tested are unemployment rate, population growth, and informal sector activities such as hairdressing, barbing, vulcanizing, commercial motorcycling, blacksmithing and pottery. The results demonstrate that informal sector activities have a positive relationship with economic growth but are statistically insignificant. Population growth, however has a positive relationship with economic growth and is statistically significant, while unemployment is inversely related to economic growth but is statistically insignificant. The study concludes that informal activities in Nigeria are a source of income and livelihood but it is difficult to ascertain their contributions to economic growth and development in the short run. Based on these findings, the study recommends among others fiscal regulation to enhance the performance of the informal sector, the regulation of the operations of the informal sector in Nigeria and ease of registration. There is also the need to formulate employment policies, educate entrepreneurs, and for government to provide an enabling environment for accelerated growth of the sector. © 2017, Nigerian Economic Society. All rights reserved.	Underground economy effects	E
Sánchez Giler S., Cruz Ibarra E.J., Rodríguez F.R., Cordero Nicolalde C.	Economic growth and inflation: Determinants of unemployment in Ecuador [Crecimiento económico e inflación, determinantes del desempleo en Ecuador]	2017	Espacios	This work present an econometric model on the behavior of Unemployment in Ecuador based on the annual variations of Economic Growth and Inflation during the period (1997 to 2016). It is intended to determine what has been its impact on the Ecuadorian reality through the application of the Phillips Curve and Okun's Law. For this, the method of Ordinary Least Squares in "Gretl" (econometric software) will be used. This research was carried out through the bibliographic review based on the book of Macroeconomics by Oliver Blanchard, research's papers, and of national institutions such as the Central Bank (BCE), and the National Institute of Statistics and Census (INEC), among others. Finally, the results indicate that the best economic model that fits the Ecuadorian reality to explain Unemployment is Okun's Law, since, as the growth rates increase, unemployment tends to decrease and vice versa. © 2019 Revista Espacios.	Initial effects	E
Mare C., Dragos C.M.	Agriculture - A possible lifesaver in times of crisis? A worldwide level	2017	International Journal of Economics and Business Research	The 2008 global financial crisis has upset the world economy, with major effects on the financial sector, industry, trade and agriculture. However, national economies have been affected in a significantly unequal manner. The objective of this study is to estimate the relationship between the importance of agriculture in a national economy and the evolution of economic growth and unemployment. The final sample is made up of 151 of countries for which complete information was available in respect to the analysed phenomenon. Data has been collected from the World Bank database. Methodology is based on spatial econometrics and OLS robust (White) regressions.	Other effects	E

	econometric study			The results show that the higher the weight of agriculture in the national economy, the lower the variation of economic growth and unemployment in times of crisis. © 2017 Inderscience Enterprises Ltd.		
Maulana	Analysis of human capital investment on economic growth in South Sumatra	2017	International Journal of Economic Research	Economic growth in South Sumatra is fluctuated caused by many factors. One of the problems is the regional population, in terms of quality and quantity. As an effort to improve the quality of Human Capital therefore it is important to improve the human skills, education, and health which can be called as Human Capital Investments. In this study, Human Capital Investment had been implemented through the labor force working, unemployment and transmigration. The purpose of this study is to analyze the influence factors of Human Capital Investment on economic growth in Central Java province. The data used in this study has the time series interval start from 2000 until 2014. Analysis method used in this study is Regression Model. The variables in this study included the dependent variable (PDRB) and the independent variables consisting of workers, unemployment and transmigration. A result obtained that with the same economic growth is influenced by the Human Capital Investment. Among the three variables in Human Capital Investment, working labor force variables gives significant influence to economic growth (GRDP) at level of 1 percent, while the unemployment variable and transmigration has no significant effect on economic growth at the significance level of 10 percent. Quality of labor affects the real positive output per capita in positive growth, significant and long-term human capital has a positive and significant impact on output and technical progress. © Serials Publications Pvt. Ltd.	Structure change, productivity growth, education and training	E
Tash M.N.S., Molaei S., Barghandan K.	Evaluating the effect of macroeconomic variables on the welfare changes in Iran	2017	International Journal of Social Economics	Purpose: The purpose of this paper is to examine the level of cardinal welfare based on Sen's index using both Pareto and non-Pareto states besides evaluating the effective factors on the welfare changes according to a fuzzy least-squares regression model. Design/methodology/approach: The social welfare functions express the optimal social allocations in the public economics. Therefore, they can be applied as a tool to represent the difference of utility allocations among consumers. There are various criteria on the literature pertaining to the social welfare functions such as those of Dasgupta et al. (1970), Sheshinski (1972), Sen (1974), Yitzhaki (1979), Shorrocks (1983), Kakwani (1984), Dagum (1990, 1993), Mukhopadhaya (2003), and Mukhopadhaya and Rao (2001). The Sen's welfare function because of strong theoretical basis and enjoying the welfare axioms is more celebrated among others so that it is a function of individual utilities resulting from the individual's social positions. Findings: The findings indicate that the welfare level has increased by about 4.8 percent during the period 2002-2007; by nearly 3.1 percent during 1997-2001 and mature to 2.7 percent from 1992 to 1996 such that the period 1997-2007 has had the highest level of social welfare improvement in Iran. The results obtained from the fuzzy regression show that the unemployment rate, inflation rate and Gini coefficient variables have an adverse relation with the cardinal welfare in both Pareto and non-Pareto cases, while the literacy rate and government expenditures have a positive relation with the welfare index. The findings also imply that there is a positive relationship between economic growth and welfare level in Iran. Originality/value: I verify that this manuscript is an original study. © Emerald Publishing Limited.	Policy maker effects	E

[No author name available]	Tighter labour markets to finally lift global wages	2017	Economic Outlook	Wage growth has been relatively slow since 2007 in advanced economies, but an upturn may be in sight. Slow productivity growth remains an issue but tighter labour markets make a positive response by wages to rising inflation more likely and there are signs that compositional and crisis-related effects that dragged wage growth down are fading – though Japan may be an exception. Overall, our forecasts are for a moderate improvement in wage growth in the major economies in 2017–18, with the pace of growth rising by 0.5–1% per year relative to its 2016 level by 2018 – enough to keep consumer spending reasonably solid. Few countries have maintained their pre-crisis pace of wage growth since 2007. In part this reflects a mixture of low inflation and weak productivity growth, but other factors have also been in play: in the US and Japan wage growth has run as much as 0.5–1% per year lower than conventional models would suggest. The link with productivity seems to have weakened since 2007 and Phillips curves – which relate wages to unemployment – have become flatter. A notable exception is Germany, where the labour market has behaved in a much more 'normal' fashion over recent years with wage growth responding to diminishing slack. 'Compositional' factors related to shifts in the structure of the workforce may have had an important influence in holding down wage growth, cutting it by as much as 2% per year in the US and 1% per year in the UK. There are some signs that the impact of these effects in the UK and US are fading, but not in Japan. The forecast rise in inflation over the next year as energy price base effects turn positive is a potential risk to real wages. But the decline in measures of labour market slack in the US, UK and Germany suggests wages are more likely to move up with inflation than was the case in 2010–11 when oil prices spiked and real wages fell. © Oxford Economics 2017	Structure change, productivity growth, education and training	F+E
Castaño M.S., Méndez M.T., Galindo M.Á.	The effect of public policies on entrepreneurial activity and economic growth	2016	Journal of Business Research	Policy makers' main interest is to avoid the problems resulting from the economic crisis. One way to avoid these problems is to stimulate economic growth as well as the necessary economic activity to reduce unemployment and to increase welfare. Specialized recent literature shows entrepreneurship as a key factor to enhance economic growth. Consequently, determining which economic policies could stimulate entrepreneurial activity and, indirectly, economic growth is relevant. This article's main goal is to analyze some of these policies' effects on entrepreneurship and economic growth. To achieve this goal, the study performs an empirical analysis of 13 European Union countries, divided in two complementary methods: Partial Least Squares (PLS) estimation and fsQCA. fsQCA allows completing the results obtained by PLS estimation, by allowing to obtain causal recipes or sufficient conditions that help to determine the relevant relation between economic variables. © 2016 Elsevier Inc.	Policy maker effects	E
Edoho F.M.	Entrepreneurship paradigm in the new millennium: A critique of public policy on entrepreneurship	2016	Journal of Entrepreneurship in Emerging Economies	Purpose: The purpose of this paper is to provide guidance to African governments by delineating a framework that would help them to formulate policies that have the potential to engender opportunity entrepreneurship. This framework is used to critique existing entrepreneurship policy in Nigeria. Entrepreneurship policy should stimulate economic growth as a necessary condition for employment generation and poverty alleviation. Design/methodology/approach: The paper adopts evaluative methodology. Data and information used in this paper were obtained from several secondary sources. These included literature review related to the subject area addressed; the Central Bank of Nigeria, which has designed and funded various initiatives to enable SMEs access funding for their businesses; the Nigerian National Bureau of Statistics which has conducted surveys of SMEs in the country; and the Small and Medium Enterprise Development Agency of Nigeria, which was established to help promote and develop the SME sub-sector. Findings: The critical findings of the paper are that opportunity entrepreneurship has a better prospect of promoting growth, creating jobs and alleviating poverty than a generic MSME policy being current currently promoted. Targeted entrepreneurship policy to incentivize opportunity-oriented entrepreneurs would produce greater benefit to the economy and society. Such entrepreneurship policy should aim at motivating and facilitating the transitions of necessity entrepreneurs to opportunity entrepreneurship and microenterprises to small and medium enterprises. More importantly, entrepreneurship policy should be targeted at drastically shrinking the informal sector to the barest minimum, while helping to aggressively expand the formal sector, spur innovations, foster growth, expand opportunities and create jobs. Research limitations/implications: The implication of this paper is the desperate need to refocus public policy on a high-	Policy maker effects	A+E

impact entrepreneurship. This calls for a rethinking of existing policy and programs to address their inherent shortcomings. Originality/value: Existing micro, small and medium enterprise (MSME) policy has not achieved the twin goals of job creation and poverty alleviation. This paper contributes to the existing body of work by providing a framework for informed decision-making relative to entrepreneurship policy that has the potential to achieve macroeconomic goals of job creation and poverty alleviation. The framework directs the attention of policymakers to opportunity entrepreneurship as a necessary focus of public policy. © 2016, © Emerald Group Publishing Limited.

Amorós J.E., Borraz F., Veiga L.	Entrepreneurship and socioeconomic indicators in Latin America	2016	Latin American Research Review	This article examines the relationship between entrepreneurial activity and a set of economic variables including gross domestic product, economic growth, unemployment, informality, corruption perceptions, macroeconomic stability, and labor regulations. We use panel data from nine Latin American countries covered by the Global Entrepreneurship Monitor from 2000 to 2010. We focus on necessity-based entrepreneurship, as the rates of this type of activity are relatively high in Latin America. The results show that economic growth is positively related to opportunity-based entrepreneurship. Other factors such as inflation, informality, and transparency (versus corruption) are positively associated with higher rates of necessity-based entrepreneurship. Lines of future research and policy implications are discussed. © 2016 by the Latin American Studies Association.	Entrepreneurial activity effects	E
Afonso Ó.	Effects of labour-market institutions on employment, wages, R&D intensity and growth in 27 OECD countries: From theory to practice	2016	Economic Modelling	We extend the existing literature by focusing on the implications of labour-market institutions on (i) relative (un)employment of unskilled labour, (ii) wage inequality in favour of skilled labour, (iii) R&D intensity, and (iv) the economic growth, and by considering 27 OECD countries. By linking the unskilled wage to the skilled one, due to the indexation of social benefits to per-capita income, we accommodate the observed short-medium-long run paths of the four variables - in (i), (ii), (iii) and (iv) - in all countries between 1991 and 2008. On average, the obtained results also reveal that: Continental-European countries present the highest skilled-labour share in production; Eastern-European countries record the highest size of R&D spillovers; Nordic countries have the highest share of skilled labour in the total population, R&D intensity, and proportionality factor related to the generosity of the (unemployment) benefits; and Eastern-Asian countries have the highest unskilled-labour share in production. © 2015 Elsevier B.V.	Labour market institutions and bargaining structure	F+E
Ali Bekhet H., Al-Smadi R.W.	The dynamic causality between FDI inflow and its determinants in Jordan	2016	International Journal of Economics and Business Research	This paper investigates the long-run and short-run causality among FDI inflows, gross domestic product, energy consumption, economic openness, gross fixed capital formation, labour and financial development in Jordan. Annual time series data for the 1978-2013 periods, the ARDL bounding test and multivariate Granger causality are used. The results identify long-run bidirectional Granger causality running between the variables in all models. In addition, the results show that evidence of short-run Bidirectional causality running from FDI to SMI, from M2 to SM, from EC to GDP, and from EC to GFC are confirmed. Unidirectional causality running from FDI to GDP, from FDI to GFC, from EO to GDP, from EO to EC and from L to M2 existed. In general, Jordanian policy makers concentrate their efforts to attract more FDI by enhancing economic indicators and liberalising the financial market. This is because more FDI in the Jordanian economy is expected to lead to a decrease in economic	Policy maker effects	E

				obstacles (e.g., lower unemployment rate, increased level of technological and managerial skills and increased size of capital). Copyright © 2016 Inderscience Enterprises Ltd.		
Ji L., Chang J.-J., Huang C.-Y.	Unionization, market structure, and economic growth	2016	Southern Economic Journal	This article investigates the macroeconomic effects of unionization in a Schumpeterian growth model with an endogenous product market structure and a unionized labor market. The endogeneity of the market structure and the trade unionism of the labor market interact and jointly determine the equilibrium unemployment, firm size, number of firms, economic growth, and distribution of income between workers and firms. We show that unionization governs the distribution of income between workers and firms and the unemployment rate, but it does not give rise to any growth effect on the economy. In addition, unionization discourages potential entrants and hence decreases the equilibrium number of firms. These results echo the empirical observation in the sense that unionization raises unemployment and alters the distribution of income between workers and firms, but it does not give rise to a significant, real impact on the firms' investment and the economy-wide growth. © 2015 by the Southern Economic Association.	Labour market institutions and bargaining structure	F
Kohler P., Storm S.	CETA without Blinders: How Cutting "Trade Costs and More" Will Cause Unemployment, Inequality, and Welfare Losses	2016	International Journal of Political Economy	Proponents of the Comprehensive Economic and Trade Agreement (CETA) emphasize its prospective economic benefits, with economic growth increasing due to rising trade volumes and investment. Widely cited official projections suggest modest GDP gains after about a decade, varying from between 0.003% and 0.08% in the European Union and between 0.03% and 0.76% in Canada. However, all these quantitative projections stem from the same trade model, which assumes full employment and neutral (if not constant) income distribution in all countries, excluding from the outset any of the major risks of deeper liberalization. This lack of intellectual diversity and of realism shrouding the debate around CETA's alleged economic benefits calls for an alternative assessment grounded in more realistic modeling premises. In this paper, we provide alternative projections of CETA's economic effects using the United Nations Global Policy Model (GPM). Allowing for changes in employment and income distribution, we obtain very different results. In contrast to positive outcomes projected with full-employment models, we find CETA will lead to intra-EU trade diversion. More importantly, in the current context of tepid economic growth, competitive pressures induced by CETA will cause unemployment, inequality, and welfare losses. At a minimum, this shows that official studies do not offer a solid basis for an informed decision on CETA. © 2016, Copyright © 2016 Taylor & Francis Group, LLC.	Policy maker effects	F
Hashimoto K.-I., Im R.	Bubbles and unemployment in an endogenous growth model	2016	Oxford Economic Papers	We construct a continuous-time overlapping-generations model with labour market frictions to examine the relationships among unemployment, asset bubbles, and economic growth. We show that the existence of asset bubbles is contingent upon the unemployment rate: a bubble (non-bubble) regime arises in equilibrium when unemployment is relative low (high). Our framework focuses on the boom and bust of asset bubbles caused by changes in fundamental variables, not a stochastic probability. Then, as labour market frictions generate a negative relationship between the unemployment rate and economic growth, we find that the bubble regime exhibits a higher growth rate than the non-bubble regime. Furthermore, we show that policy or parameter changes that have a positive influence on the labour market shift the economy from a non-bubble regime to a bubble regime. © Oxford University Press 2016.	Financial markets and Banking sector effects	F
Marconi G., Beblavý M., Maselli I.	Age effects in Okun's law with different indicators of unemployment	2016	Applied Economics Letters	ABSTRACT: We reassess the results from the literature on the relationship between the youth unemployment rate and GDP growth (Okun's law), based on the concern that the unemployment rate is not an ideal indicator for teenagers and young adults. Using the unemployment ratio instead, we find that youth unemployment (15–24 years old) is not significantly more responsive to economic growth than prime-age (25–64) unemployment. However, compared to prime-age unemployment, teenagers' unemployment (15–19) is relatively unresponsive, whereas young adult's (20–24) unemployment is more strongly correlated with economic growth. These results	Initial effects	E

				are quite different than those obtained with the unemployment rate as the dependent variable. © 2015 Taylor & Francis.		
Chen B.-L., Hsu M., Lai C.-F.	Relation between growth and unemployment in a model with labor-force participation and adverse labor institutions	2016	Journal of Macroeconomics	Based on labor search models with an exogenous labor force, existing papers have found a negative relation between long-run economic growth and unemployment. Motivated by the fact that the labor force participation has changed substantially across OECD countries, this paper revisits the long-run relation by taking account of endogenous labor-force participation. We find that, via the effects on employment, changes in labor market institutions may increase or decrease long-run economic growth. Moreover, depending upon the effects on the labor force and employment, these labor market institutions may increase or decrease unemployment rates in the long run. Thus, changes in labor market institutions lead to a non-monotone relation between long-run economic growth and unemployment that is consistent with the data. © 2016 Elsevier Inc.	Labour market institutions and bargaining structure	F+E
Stepanok I.	Creative destruction and unemployment in an open economy model	2016	Canadian Journal of Economics	I develop a model of endogenous economic growth and search and matching frictions in the labour market. I study the effect of trade liberalization between two identical economies on long-run unemployment and show that bilateral trade liberalization has a steady state effect on unemployment that is negative for countries with a relatively larger R&D sector and positive for countries with a smaller R&D sector. © 2016 Canadian Economics Association	Other effects	F
Lisi G.	Unemployment, underground economy and economic growth in a matching model of behavioural economics	2016	International Review of Economics	The main aim of this theoretical paper was to show that a matching model of behavioural economics is able to shed light on important and intricate economic relationships such as those among unemployment, underground economy and growth. Precisely, it will show that in a trustful society the underground economy and unemployment are low and growth is high, whereas in a distrustful society the underground economy is high, unemployment is reduced only in the short run, and long-run growth is low. © 2015, Springer-Verlag Berlin Heidelberg.	Underground economy effects	F
Todorović I., Komazec S., Jevtić M., Obradović V., Marić M.	Strategic management in development of youth and women entrepreneurship - Case of Serbia	2016	Organizacija	Background and Purpose: Volume and sophistication of scientific research related to different aspects of entrepreneurship have significantly increased in recent years. Many authors point out the positive influence that development of micro, small and medium enterprises and entrepreneurship has on economic growth and job creation. According to various researchers, youth entrepreneurship and women entrepreneurship are two very important elements of this global phenomenon. The purpose of this paper is to provide the analysis of strategic framework for the support to the development of youth and women entrepreneurship in Serbia. Design/Methodology/Approach: Situational analysis of youth and women employment and examination of official Government strategic documents related to strategic framework for the support to the development of youth and women entrepreneurship in Serbia will be conducted. Results: Concrete activities have to be performed by different stakeholders, mostly non-government organizations. The activity stakeholders are on the bottom of the institutional framework, which provides the support to MSME (Micro, Small and Medium Enterprises) sector that will execute the operations in accordance with the defined strategic framework. Conclusion: Youth-run enterprises provide numerous benefits for society; they reduce youth unemployment and help young people	Entrepreneurial activity effects	A+E

McQuinn K., Whelan K.	The Prospects for Future Economic Growth in the Euro Area	2016	Intereconomics	With a long-term projection of TFP growth of 0.2 per cent, a gradual decline in the work-age population and a static average workweek, we project a "baseline" average real GDP growth rate in the euro area of just 0.6 per cent over the next decade — even if the unemployment rate and investment share of GDP return to their pre-crisis levels by 2020. © 2016, ZBW and Springer-Verlag Berlin Heidelberg.	Labour market institutions and bargaining structure	E
Österholm P.	Time variation in Okun's law in Sweden	2016	Applied Economics Letters	In this article we estimate an Okun's law relationship for Sweden using a model with time-varying parameters. Employing quarterly data from 1982 to 2014, results indicate that the GDP growth needed to keep the unemployment rate unchanged in the long rung has fallen considerably over the last 10 years. © 2015 Taylor & Francis.	Initial effects	E
Feriyanto N., Sriyana J.	Labor absorption under minimum wage policy in Indonesia	2016	Regional Science Inquiry	This study analyzes the impact minimum wage policy and some economic factors on labor absorption in Indonesia. For this purpose, this research used provincial panel data for the period of 2006 to 2013. The study reveals that minimum wage policy across provinces has created unemployment trap in this period. It can be inferred that minimum wage policy failed to support the local economy to better and more stable society welfare. This research also found an unexpected result regarding to the role of economic growth to labor absorption. Economic growth across provinces has not contributed yet to the increasing employment rate in the local economy. Moreover, this finding reveals that provincial labor absorption was also affected by geographical factors. The provinces which are located at the west Indonesia tend to have high empoylment rate. This phenomenon indicates the existence of unbalanced development in the country.	Policy maker effects	E
Li J.F., Lin Z.X.	Social benefit expenditures and stagflation: evidence from the United States	2016	Applied Economics	Stagflation refers to the terrible economic malaise associated with declining growth, hyperinflation and high unemployment. Unlike previous cost-push explanations such as an overheated labour market and oil prices, this article suggests that social benefit expenditures are a potential cause of stagflation. We investigate the impact of social benefit expenditures on stagflation in the U.S. over the 1950–2014 period by employing an autoregressive distributed lag (ARDL) bounds testing approach to cointegration, which was developed by Pesaran, Shin, and Smith. The influence of social benefit expenditures on economic growth and inflation and unemployment rates is estimated. The empirical results from the U.S. suggest that economic growth responds negatively to social benefit expenditures, while inflation and unemployment rates are both positively associated with social benefit expenditures. Thus, government-led rigid welfare could contribute to stagflation in the U.S. Instead of increasing people's happiness, the over-burdened welfare system could push people into economic malaise. This stagflation risk shouldn't be ignored. These results are important for U.S. policymakers and can inform other governments characterized by high levels of well-being. © 2016 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.	Policy maker effects	E

Pogosov I.A., Sokolovskaya E.A.	Economic crises and unemployment in Russia	2016	Studies on Russian Economic Development	This article considers changes in the number of unemployed individuals in conjunction with the dynamics of the production volume in Russia in 1991–2015. An assessment has been given for the quantitative relationship between crisis declines in production and the number of unemployed individuals. Long-term trends determining the dynamics of unemployment under the effect of direct factors of economic growth (labor resources, fixed capital, and scientific and technical progress) have been analyzed. © 2016, Pleiades Publishing, Ltd.	Structure change, productivity growth, education and training	E
Lazarov D., Petreski G.	Human capital as a binding constraint to economic growth: The case of Macedonia	2016	Croatian Economic Survey	The main objective of the paper is to explore the assumption if the lack of skilled and well-educated workforces (human capital) holds a potential of a binding constraint to economic growth of the Macedonian economy. Not neglecting growth econometrics' insights for the investigation of the relationship between human capital and economic growth, the work is primarily based on a growth diagnostic approach. The empirical techniques used in this paper are: growth accounting decomposition production method; macro and micro assessment of the return rate on investment in human capital; and, comparative benchmark analysis concerns with regard to unemployment distribution according to education and age structure and companies' perceptions about the quality of workforce. The estimated results indicate an important contribution of human capital to economic growth (its relative contribution in terms of growth rate composition is approximately 22 percent). The macro and micro assessment of the rate of return on investment in human capital shows that the rate of return to higher education is significantly superior to corresponding returns to secondary education. Finally, the international benchmark analysis helps in comparative human capital impact analysis (educational structure of labor force in the wider region). Predominantly, it is based on educational structure, unemployment distribution and the companies' perception about the quality of the workforce. © 2016, Institute of Economics (Zagreb). All rights reserved.	Structure change, productivity growth, education and training	F+E
Magazzino C.	The political determinants of social expenditure in the European countries	2016	International Journal of Economic Perspectives	The social expenditure in 30 European countries over the period 1970-2011 is examined, applying static and dynamic panel estimators in order to identify the determinants of social expenditure. After a brief introduction and a survey of the economic literature on this issue, we discuss the data and briefly introduce the applied methodologies. Empirical results, in line with previous researches, suggest that real per capita GDP growth, unemployment rate, general government consolidated gross debt, and openness to trade have a direct impact on real social expenditure. Moreover, some political factors, such as government fragmentation, political globalization, and democracy degree contribute to explain the variability of social expenditure. It is found that higher growth is associated with less expenditure: Granger causality analysis reveals mixed results, and only four countries of our sample exhibit a unidirectional flow running from economic growth rate to social expenditure. © International Economic Society.	Policy maker effects	E
Zaitenova N.K., Baibulekova L.A.	Evaluation of influence of macroeconomic shocks on the banking sector of Kazakhstan	2016	International Journal of Economics and Financial Issues	The study presents the indicators of the level of non-performing loans (NPL) and the measure of "financial depth" of banking systems in several countries, as well as demonstrates the link between them. Further, it examines the results of the analysis of the development of banking sector and the assessment of the influence of macroeconomic factors on the sustainability of the banking sector of Kazakhstan. A mathematical model of dependence of the level of NPL on macroeconomic shocks such as economic growth rates, dynamics of the national currency exchange rate, unemployment and inflation is developed. © 2016, Econjournals. All rights reserved.	Financial markets and Banking sector effects	F

Ananda C.F., Fazaalloh A.M., Hidayati B., Soewardi T.J.	Economic growth and inter-regional disparity: An economic policy debate	2016	Pertanika Journal of Social Sciences and Humanities	Since the implementation of the decentralisation policy in 2001, it has brought different facets and consequences onto the Indonesian economy. International experiences expose it that this policy has positive aspects in social and democratic. On the other hand, it will hurt the economic development. It is a known fact that this policy needs better people's participation and involvement in policy decision, but it should bring the improvement of economic development and increasing life quality of the people in the end. The Indonesian government has shown effort to achieve all objectives, despite being under certain limited conditions. For example, through increasing transfer funds to local government year to year, it is expected that development problems such as inter-regional disparity can be reduced significantly. Based on the above problem, this study was conducted with the aim to analyse the impacts of fiscal decentralisation, education, unemployment, infrastructure, manufacture sector, regional and minimum wages on inter-regional disparity occurring in Indonesia. In addition, the study was done to determine factors influencing regional economic growth. For this purpose, secondary data were used to identify the problems and an explorative method was used to explain and answer the research questions. The study indicated several findings. First, economic growth does not affect regional disparities, while fiscal decentralisation in term of spending and revenue share influences economic growth. Second, income disparity influences economic growth, while fiscal decentralisation has no influence on economic growth. © 2016 Universiti Putra Malaysia Press.	Policy maker effects	E
Dinca G., Dinca M.S., Popione C.	Analyzing fiscal balance evolution for developed and emerging countries	2016	Scientific Annals of Economics and Business	The purpose of our paper is to analyze the main factors which influence fiscal balance's evolution and thereby identify solutions for configuring a sustainable fiscal policy. We have selected as independent variables some of the main macroeconomic measures, respectively public debt, unemployment rate, economy openness degree, population, consumer goods' price index, current account balance, direct foreign investments and economic growth rate. Our research method uses two econometric models applied on a sample of 22 countries, respectively 14 developed and 8 emergent. The first model is a multiple regression and studies the connection between the fiscal balance and selected independent variables, whereas the second one uses first order differences and introduces economic freedom as a dummy variable to catch the dynamic influences of selected measures upon fiscal result. The time interval considered was 1999-2013. The results generated using the two models revealed that public debt, current account balance and economic growth significantly influence the fiscal balance. As a consequence, the governments need to plan and implement a fiscal policy which resonates with economy priorities and the phase of the economic cycle, as well as ensure a proper management of the public debt, stimulate sustainable economic growth and employment.	Policy maker effects	E
Nasir M.A., Wu J., Qamar A.	Macroeconomic policy coordination and British labour market: Is the state contingent forward guidance dancing a tango solo?	2016	Global Business and Economics Review	This study has added a new perspective to the implications of macroeconomic policy coordination for the labour market in the UK. Using quarterly macroeconomic indicators (GDP, fiscal, monetary and unemployment) from 1978 to 2007 (30 years, 120 observations) and VEC model, this study intends to examine how fiscal and monetary policy interaction has an impact on labour market in long-term. The results showed that an expansionary fiscal and accommodating monetary stance can be effective to curb unemployment and the economic growth has a positive association with the outlook of labour market. In addition, the expansionary fiscal policy led monetary policy to adopt a contractionary stance and correspondingly the adoption of the contractionary stance by monetary policy compelled fiscal policy towards expansion. The evidence from this study suggests that a policy conflict can lead to adverse impact on the labour market and therefore State Contingent Forward Guidance provided by the Bank of England would require fiscal policy support. Copyright © 2016 Inderscience Enterprises Ltd.	Policy maker effects	E

Biswas R.	Total factor productivity, growth, and entrepreneurship in emerging economies	2016	Research in Finance	This study examines the role of social and cultural acceptance of new ideas and the fear of failure in emerging economies within the context of entrepreneurship and growth (Romer Growth Model, 1986). Using data from the Global Entrepreneurship Monitor and the Panel Regression Analysis methodology for a sample of 22 emerging countries over the period 2008-2014, this study finds that perceived opportunities, knowledge of peers involved in startups, and media attention to startups, all indicators of the social acceptance of entrepreneurship, are statistically significant determinants of growth as measured by per capita Gross Domestic Product and reduction in unemployment. This influence is persistent even after controlling for time effects, despite the liquidity crunch and credit squeeze that occurred during the financial crisis starting in 2008. The fear of failure factor did not have a statistically significant influence on growth, confirming the notion that entrepreneurs in emerging economy environments, in particular, are prepared to pursue their goals doggedly, even in the face of less than 50:50 odds of succeeding. Copyright © 2016 by Emerald Group Publishing Limited.	Entrepreneurial activity effects	E
Georgiadis G.	Examining asymmetries in the transmission of monetary policy in the euro area: Evidence from a mixed cross-section global VAR model	2015	European Economic Review	I estimate the transmission of a common euro area monetary policy shock across individual euro area economies. To do so, I develop a global VAR model in which all euro area economies are included individually while, at the same time, their common monetary policy is modelled as a function of euro area aggregate output growth and inflation. The results suggest that the transmission of monetary policy across euro area economies displays asymmetries, and that, in line with economic theory, these are driven by differences in economies' structural characteristics. In particular, euro area economies in which a higher share of aggregate output is accounted for by sectors servicing interest rate sensitive demand exhibit a stronger transmission of monetary policy to real activity. Similarly, even though the evidence is less conclusive, euro area economies which feature more real wage and/or fewer unemployment rigidities also appear to display a stronger transmission of monetary policy to real activity. © 2015 Elsevier B.V.	Policy maker effects	F+E
Arin K.P., Huang V.Z., Minniti M., Nandialath A.M., Reich O.F.M.	Revisiting the Determinants of Entrepreneurship: A Bayesian Approach	2015	Journal of Management	Entrepreneurship has long been seen as an important instrument in stimulating and generating economic growth. The amount of research trying to identify key factors that drive entrepreneurship is considerable; yet, little consensus has been achieved. We argue that this lack of consensus could be on account of model uncertainty as empirical studies often tend to be selective on what variables are included in the final model. Drawing on recent literature, we demonstrate the benefits of Bayesian model averaging (BMA) in reducing the impact of model uncertainty on empirical research in entrepreneurship. Additionally, BMA provides measures of variable importance and can be seen as a complementary approach to dominance/relative importance analysis. We show that when model uncertainty is corrected for, gross domestic product per capita, unemployment, the marginal tax rate, and the volatility of inflation are the only macro variables significantly and universally associated with aggregate entrepreneurship. Furthermore, the emphasis on inflation and taxation suggests that governments have the power to influence the quantity and distribution of entrepreneurial activity by setting incentives that are not entrepreneurship specific but overlap significantly with general and fundamental principles of economic stability. © The Author(s) 2014.	Entrepreneurial activity effects	F+E
van Ours J.C.	The Great Recession was not so great	2015	Labour Economics	The Great Recession is characterized by a GDP decline that was unprecedented in the past decades. This paper discusses the implications of the Great Recession analyzing labor market data from 20 OECD countries. Comparing the Great Recession with the 1980s recession it is concluded that there is a high cross-country correlation of the unemployment rates over the two recessions indicating that some labor markets are more vulnerable to fluctuations in economic growth than others. Young workers are the most affected by the Great Recession both in terms of unemployment rates as well as employment rates. For prime age workers employment rates were also affected but for older workers the Great Recession did not have a large impact. To analyze how economic growth and labor market institutions have affected unemployment two types of models are estimated. The main conclusion is rather straightforward and has a "one size fits all" character: to reduce unemployment and create jobs economic growth is needed. © 2015 Elsevier B.V.	Labour market institutions and bargaining structure	E

Odhiambo N.M.	Government Expenditure and Economic Growth in South Africa: an Empirical Investigation	2015	Atlantic Economic Journal	In this study, the dynamic causal relationship between government expenditure and economic growth is examined using data from South Africa, the most advanced economy in Africa. The study uses the recently developed auto-regressive distributed lag model (ARDL)-bounds testing approach to examine this linkage. In order to address the omission of variable bias, the study incorporates unemployment as an intermittent variable between economic growth and government spending, thereby creating a simple multivariate model. The empirical findings of this study show that, although both government expenditure and economic growth Granger-cause each other in the short run, in the long run, it is economic growth that Granger-causes government expenditure. © 2015, International Atlantic Economic Society.	Policy maker effects	E
Cakan E., Doytch N., Upadhyaya K.P.	Does U.S. macroeconomic news make emerging financial markets riskier?	2015	Borsa Istanbul Review	This study analyzes the impacts of US macroeconomic announcement surprises on the volatility of twelve emerging stock markets by employing asymmetric GJR-GARCH model. The model includes both positive and negative surprises about inflation and unemployment rate announcements in the U.S. We find that volatility shocks are persistent and asymmetric. Asymmetric volatility increases with bad news on US inflation in five out of the twelve countries studied and it increases with a bad news on U.S. unemployment in four out of twelve countries. Asymmetric volatility decreases with good news about US employment situation in eight countries out of twelve countries. Such markets become less risky with an unexpected decrease in unemployment rate in the US. Our findings are important for demonstrating that USA economic growth and employment situation has an impact on many emerging stock markets and that positive US macroeconomic news in fact make many emerging stock markets less volatile. © 2014 Borsa İstanbul Anonim Şirketi. Production and hosting by Elsevier B.V. All rights reserved.	Financial markets and Banking sector effects	E
Aoyagi C., Ganelli G.	Asia's quest for inclusive growth revisited	2015	Journal of Asian Economics	Despite the rapid economic growth and poverty reduction, inequality in Asia worsened during the last two decades. We focus on the determinants of growth inclusiveness and suggest options for reform. A cross-country empirical analysis suggests that fiscal redistribution, monetary policy aimed at macro stability, and structural reforms to stimulate trade, reduce unemployment and increase productivity are important determinants of inclusive growth. The main policy implication of our analysis is that there is still room to strengthen such policies in Asia to better achieve growth with shared prosperity. In particular, scenario simulations based on our results suggests that the effect of expanding fiscal redistribution on inclusive growth could be sizeable in emerging Asia, since the estimated improvement in our proxy of inclusive growth-a measure of growth in average income "corrected" for the equity impact-ranges from about 1% to about 8% points. © 2015 Giovanni Ganelli.	Inequality and income distribution	E
Korkmaz S.	The effect of military spending on economic growth and unemployment in Mediterranean countries	2015	International Journal of Economics and Financial Issues	One of the necessities of public life and one of the basic elements of the state aiming to fulfill the demands and requirements of individuals which form the community is sovereignty. Sovereignty is separated into two as internal and external. This means, state should provide internal security and peace and also should be able to protect itself against the external threats. In order for a state to achieve these, it has to fulfill the defense services. Due to the unease in Arab regions after Arab spring and as Mediterranean region has strategic importance, 10 countries in Mediterranean region were selected and analysis with panel data was performed for years 2005-2012, in order to examine the effect of military spending of these countries on economic growth and unemployment. © 2015, Econjournals. All rights reserved.	Policy maker effects	E

Baah-Boateng W.	Unemployment in Ghana: a cross sectional analysis from demand and supply perspectives	2015	African Journal of Economic and Management Studies	Purpose – The purpose of this paper is to analyse the causes of unemployment in Ghana from both labour demand and supply perspectives based on most recent cross sectional data set from one nationally representative household survey and a baseline survey for Millennium Development Support. Design/methodology/approach – A logit regression estimation technique is applied to two different household survey data sets of 2008 and 2013 to capture the effect of labour demand and supply on unemployment. Findings – Using education and age as capability variables to represent supply factors, unemployment is found to increase with education, and declines with age, confirming higher unemployment rate among the youth, than the old. The paper also observes strong influence of demand factors on unemployment based on relatively higher incidence of unemployment fulltime jobseekers relative to part-time jobseekers and seekers of formal or wage-employment and self-employment or SMEs compared with those seeking any job. Other factors such as the individual's reservation wage, marital status, sex and poverty status as well as their rural-urban location are also found to cause unemployment in Ghana. Practical implications – Unemployment as a result of the inability of individuals to obtain a job of their choice in the midst of strong economic growth in Ghana suggests weak employment content of growth. In contrast, an increasing phenomenon of unemployment with education also reflects a problem of skill mismatch between skills churn out by education and training institutions and skills requirement by firms in the labour market. Originality/value – The originality of the paper and its contribution to existing literature largely emanate from the inclusion of demand factors in a cross sectional analysis of causes of unemployment. © 2015, Emerald Group Publishing Limited.	Labour market institutions and bargaining structure	E
Korent D., Vuković K., Brčić R.	Entrepreneurial activity and regional development	2015	Economic Research-Ekonomska Istrazivanja	There are many global and national analyses that provide conclusive scientific support to various theses which stress the importance of entrepreneurship. In this article, based on the relevant data from Croatian counties, we specifically examine the mutual dependence and dual causality of the concepts of regional development and entrepreneurial activity. We apply correlation and dynamic panel data analysis on the set of data from Croatian counties with levels and relative changes of the selected regional growth indicators (GDP per capita, registered unemployment rate, development index) and the indicators of entrepreneurial activity (the number of entrepreneurs per 100 residents). The results of these analyses show the complexity and ambiguity of impact of level of regional development and economic growth on the growth of entrepreneurial activity Croatian counties, depending on the studied indices and the manner of observing them either through their particular levels or their relative changes in time. Results of testing the impact of level and growth of entrepreneurial activity on economic growth are however consistent and robust to different indicators reflecting economic growth. Showing that there exists a significant positive impact of entrepreneurial activity on economic growth. © 2015 The Author(s). Published by Taylor & Francis.	Entrepreneurial activity effects	E
Palumbo A.	Studying Growth in the Modern Classical Approach: Theoretical and Empirical Implications for the Analysis of Potential Output	2015	Review of Political Economy	The main characteristics of the modern classical approach to growth are studied with particular reference to the notion of 'potential output'. In contrast to mainstream approaches, which consider potential output to be exogenous and supply-determined, it is here regarded as endogenous and path-dependent. A tentative analysis is carried out of the implications of such a conception in empirical research, with special reference to the effects of the crisis on potential growth. Mainstream estimation methods (especially those used by international institutions) are shown to be deeply influenced by theory, but also to provide dubious and puzzling results. Very different empirical results and policy implications may be obtained from the standpoint of the alternative theoretical framework provided by the modern classical approach. On this basis, the paper proposes that the long-term policy target should be set in terms of the rate of unemployment rather than potential output or potential growth. © 2015 Taylor & Francis.	Labour market institutions and bargaining structure	A

Okah-Efogo F., Timba G.T.	Female entrepreneurship and growth in Cameroon	2015	African Journal of Economic and Management Studies	Purpose – The purpose of this paper is to supplement the literature on the effect of female entrepreneurship on economic growth by bringing new evidence for the case of SMEs owned by women in Cameroon. Design/methodology/approach – Effects of female entrepreneurship on Cameroonian economic growth are analyzed through a simple statistical analysis. Findings – Our results reveal that there is a growing female entrepreneurship in Cameroon, localized in many different sectors of activity. Moreover, these SMEs are opportunity entrepreneurship which contributes to economic growth by considerably reducing unemployment particularly for women, generating revenues for government and enhancing human capital skills. Research limitations/implications – The study suggests an investment in SMEs owned by women and an investment in education and skills of those women in order to positively affect economic growth. Originality/value – Many studies have focussed their attention on the relationship between SMEs and economic growth, but few attempted to evaluate the theoretical assumptions in case studies and in a gender perspective. © Emerald Group Publishing Limited	Entrepreneurial activity effects	E
Murakami H.	Wage flexibility and economic stability in a non-Walrasian model of economic growth	2015	Structural Change and Economic Dynamics	In this paper, we set up a model of economic growth which deals with Keynesian unemployment, from non-Walrasian/Keynesian perspectives, investigate the possibility of persistent "growth cycles" generated and analyze the effects of flexibility of (real) wages on the long-run economic stability. Consequently, we reach the conclusion that flexibility of wages has an adverse effect on the macroeconomic stability and that reductions of wages have negative impacts on the attainment of "full-employment.". © 2015 Elsevier B.V.	Labour market institutions and bargaining structure	F
Fabus M.	Impact of foreign direct investment on unemployment development in selected regions of Slovak Republic	2015	Economic Annals-XXI	Foreign direct investment (FDI) was an important factor which ensured to Slovakia greater competitiveness, as it has introduced new technologies, created jobs, brought know-how as well as managerial and entrepreneurial culture. The paper presents an empirical analysis of an impact of foreign direct investment on selected regions between 1998 and 2013. The analysis was first conducted as a correlation analysis, examining an impact of the FDI inflow on unemployment development in selected regions of the Slovak Republic (Bratislava, Zilina, Presov and Kosice). Subsequently, interdependencies between the aforementioned variables were examined by means of a regression analysis. As a result, the indirect dependence between the examined variables has been confirmed. Moderate indirect dependence was recorded in the region of Bratislava, and a significant one in the regions of Trencin and Presov.	Policy maker effects	E
Husson M.	Unemployment, working time and financialisation: The French case	2015	Cambridge Journal of Economics	This article discusses the relationship between unemployment, working time and financialisation. I examine the French experience of working time reduction (the 35 hours week). I show that real wage growth has been frozen since the mid-1980s, working time reduction has been insufficient to create the amount of jobs necessary for maintaining full employment and most of the productivity gains were devoted to the recovery in the profit share. Under these conditions, we establish two important results. The first is that the rise in unemployment rate is offset by the increase in financialisation, measured as the difference between the profit share and the investment rate. The increase in dividends is therefore the counterpart of a lack in job creation due to an insufficient reduction of working time. The analysis has two main implications: growth is not a solution in itself, and the question of distribution is central, but it implies that capitalism should operate with a lower rate of profit, which it is not willing to accept. © The Author 2013. Published by Oxford University Press on behalf of the Cambridge Political Economy Society. All rights reserved.	Labour market institutions and bargaining structure	A+E

Hondroyiannis G., Papaoikonomou D.	When does it pay to tax? Evidence from state-dependent fiscal multipliers in the euro area	2015	Economic Modelling	The impact of fiscal policy on economic growth is investigated within a panel of euro area member states over the period 2004-2011. We mainly consider fiscal impulses identified by (a) changes in the structural primary balance, complemented by evidence from (b) the IMF narrative shocks developed by Devries et al. (2011) and (c) a VAR-based measure of unanticipated policy announcements. Aggregate fiscal multipliers are estimated in the region of 0.5, although we find considerable variation depending on the fiscal mix, the degree of openness and the state of the economy. During episodes of recession, tax hikes become significantly more costly in terms of output than expenditure cuts. This appears to be related to increases in the share of hand-to-mouth consumers, proxied by the unemployment rate. Fiscal effects are generally more muted in open economies and during periods of positive growth. Country-specific features in Greece lead to significantly higher estimates, possibly in excess of unity in 2011, reflecting predominantly sizeable revenue effects. © 2014 Elsevier B.V.	Policy maker effects	E
Moutinho R., Au-Yong-Oliveira M., Coelho A., Manso J.P.	The role of regional innovation systems (RIS) in translating R&D investments into economic and employment growth	2015	Journal of Technology Management and Innovation	The emergence of the so-called "European Paradox" shows that increasing Governmental R&D Investment is far from being a 'panacea' for stagnant growth. It is worth noting that Governmental R&D Investment does not have a statistically significant impact on employment, indicating the need to assess the trade-offs of policies that could lead to significant increases in government expenditure. Surprisingly, Governmental R&D Employment does not contribute to 'mass-market' employment, despite its quite important role in reducing Youth-Unemployment. Despite the negative side-effects of Governmental R&D Employment on both GVA and GDP, University R&D Employment appears to have a quite important role in reducing Unemployment, especially Youth-Unemployment, while it also does not have a downside in terms of economic growth. Technological Capacity enhancement is the most effective instrument for reducing Unemployment and is a policy without any downside regarding sustainable economic development. © Universidad Alberto Hurtado, Facultad de Economía y Negocios.	Policy maker effects	E
Palombi S., Perman R., Tavéra C.	Regional growth and unemployment in the medium run: asymmetric cointegrated Okun's Law for UK regions	2015	Applied Economics	This article tests for the presence of a medium-run asymmetric Okun's Law relationship between regional output and regional unemployment rate in UK regions. The test is performed with a panel data version of the hidden cointegration technique suggested by Granger and Yoon. A novelty of the article is to combine the method of hidden cointegration with a panel data method of removing cross-sectional dependence. The medium-run Okun relationship for regions in the UK appears to confirm results found elsewhere in the literature on countries as a whole, although the coefficients tend to be smaller. © 2015 Taylor & Francis.	Initial effects	E
Brincikova Z., Darmo L.	The impact of economic growth on gender specific unemployment in the EU	2015	Analele Stiintifice ale Universitatii Al I Cuza din Iasi - Sectiunea Stiinte Economice	The relationship between unemployment and economic growth is known as Okun's Law. Okun's Law is used to estimate the reaction of unemployment rate on change in GDP growth. The purpose of this paper is therefore to examine the possibly asymmetric relationship between changes in output and gender specific unemployment rates by estimating Okun's coefficients for all countries of the EU, as well as for selected groups of the EU countries. These groups include countries with similar characteristics that differ from other groups and represent the diversity among the EU. The results confirm that male unemployment is more sensitive to changes in GDP than the unemployment of females. Furthermore, findings differ on the country's specifics with higher sensitivity in countries with lower economic performance.	Initial effects	E
Valadkhani A.	Okun's Law in Australia	2015	Economic Record	This paper examines the dynamic behaviour of the Okun coefficient using quarterly data (1980Q3-2014Q1). It is found that a rise in labour productivity and a fall in output can increase unemployment. A 1 per cent reduction in the unemployment rate requires only a 2.4 per cent increase in real output growth above the average growth rate, but during recessions this figure increases to 4.53 per cent. The probability of observing a higher coefficient was limited to recessionary periods. Given that recessions are now less frequent, Okun's law continues to be a useful rule of thumb in Australia. © 2015 Economic Society of Australia.	Initial effects	E

Albassam B.A.	Does Saudi Arabia's economy benefit from foreign investments?	2015	Benchmarking	Purpose – The current study contributes to filling the gap in studies that discuss the impact of foreign direct investment (FDI) on economic growth and employment in Saudi Arabia. Although the study found that FDI inflows contribute to the government effort to reduce or at least control the high unemployment rate, the study found no relationship between FDI inflows and economic growth in Saudi Arabia. However, we must be careful in interpreting the result of the positive influence of FDIs on employment since almost half of the Saudi workforce is employed by the public sector. The paper aims to discuss these issues. Design/methodology/approach – Data regarding FDI inflow to Saudi Arabia were collected from the World Bank database and the Saudi Arabian General Investment Authority (SAGIA), while GDP per capita (economic growth) used data from the World Bank database only. Unemployment rate data were collected from the SAMA annual book. This study covered the period from 1999 through 2012. The study used the time series analysis methodology to study the impact of FDI inflow on economic growth and employment in Saudi Arabia. Findings – Although the current study found that FDI inflows contribute to the government's effort by reducing or at least controlling the country's high unemployment rate, it also found no relationship between FDI inflows and economic growth in Saudi Arabia. However, we must be careful in interpreting the result of the positive influence of FDI on employment since almost half of the Saudi workforce is employed by the public sector. Originality/value – In recent years, the government of Saudi Arabia has issued a number of initiatives to achieve diversification of income sources, create jobs for Saudi workers, and transfer advanced administrative techniques and technology to the Saudi economy; one of these initiatives involves attracting foreign investors to the Saudi market. This study contributes to fill the gap in studies that discuss the impact of FDI inflows on economic growth and employment in Saudi Arabia. © 2015, Emerald Group Publishing Limited.	Policy maker effects	E
Zhang L., Du Z., Hsiao C., Yin H.	The Macroeconomic Effects of the Canada-US Free Trade Agreement on Canada: A Counterfactual Analysis	2015	World Economy	We evaluate the macroeconomic effects of the Canada-US Free Trade Agreement (FTA) on Canada's economy using a counterfactual analysis. We exploit the dependence of GDP growth (labour productivity and unemployment, respectively) among different economic entities and construct the counterfactuals using data from countries other than Canada. We find that in the adjustment period from 1989:Q1 to 1992:Q1, Canada's economy bore the short-run adjustment costs of the FTA with a decline of the annual real GDP by 2.56 per cent and a decline of the labour productivity by 0.62 per cent. After the adjustment period, the FTA had a positive and permanent effect of 1.86 per cent on Canada's annual real GDP growth and raised the labour productivity from 1992 to 1994 by 2.39 per cent on average. Moreover, the FTA increased Canada's annual unemployment rate by 1.81 per cent in the period 1989-94. © 2014 John Wiley & Sons Ltd.	Policy maker effects	E
Dumciuviene D., Stundziene A., Startiene G.	Relationship between structural funds and economic indicators of the European union	2015	Engineering Economics	Economic and social cohesion is one of the economic objectives of the European Union (EU). Therefore it is important to analyse the influence of the European Union policies on the cohesion. The common market itself is not able to solve the economic and social problems that are relevant for the EU countries. The EU structural funds should encourage the employment and development of the region. The cohesion policy provides the possibility to finance various activities in order to promote economic growth in the European Union Member States. The convergence, regional competitiveness, employment and European territorial cooperation are the three main objectives of the current EU development aims. The cohesion policy can be helpful instrument for achieving economic convergence. The EU investments are meant to support the innovations as well as education and training in urban and rural areas, create sustainable high-quality jobs in order to reduce the unemployment and pursue low-carbon economy. In summary, the funds should lead to economic growth. This article presents the analysis of the relationship between the structural support and economic indicators of the EU. The research methods used in the article include the analysis of literature and statistical data, and correlation analysis. The analysis showed that correlation between main economic indicators and the funds is not significant and it may show the insufficient use of the support. © 2015, Kauno Technologijos Universitetas. All rights reserved.	Policy maker effects	A+E

Authors	Title	Year	Source	Abstract		
Čiutienė R., Meilienė E., Savanevičienė A., Vaitkevičius S.	Interdependence between human capital and the power of a shadow economy: Lithuanian case study	2015	Technological and Economic Development of Economy	According to economic theory, economic growth is related to Human Capital (HC). Lithuania is associated with countries where a high level of shadow economy exists. This paper examines the issues of human capital development under conditions of shadow economy. The aim of this paper is to evaluate the power and effects of the Lithuanian shadow economy in the context of human capital and to assess the inter-dependence between the power of the shadow economy and human capital. The theoretical justification for research on the inter-dependence between the power of the shadow economy and human capital is based on the analysis of how changes in the human capital structure and indicators reflect the power of the shadow economy and vice versa. Theoretical analysis has been made on the main features and factors of shadow economy and possible tools of human capital evaluation. On the basis of theoretical findings, the model of shadow economy power has been created and using the linear regression method, the dependence of shadow economy power on human capital has been evaluated. The power of the shadow economy has been calculated as a function of population, GDP, trade, unemployment and the labor force. Variables of social development, such as demographic changes and risk of poverty, indicators of HC economic development and indicators of HC economic potential have been used for the research. For the evaluation of the interdependence of the variables, the years 2005–2012 were used. In evaluating human capital under the conditions of the shadow economy, a few periods have been identified and distinguished. Firstly, the results showed that the level of human capital education and unemployment can be described as the most important indicators that reflect the economic environment and shadow economy. Secondly, the increasing level of the shadow economy increases shadow unemployment, and this in turn influences the attraction of direct foreign investment. And finally, research on the influence of separate factors of the shadow economy on variables of human capital could disclose a deeper understanding of the impact of the shadow economy on human capital. © 2015 Vilnius Gediminas Technical University (VGTU) Press.	Underground economy effects	F+E
González-Sánchez V.M.	Factors Promoting Entrepreneurship in European Countries: Unemployment, Taxes, and Education	2015	Journal of Promotion Management	This article will analyze empirically the relationship existing between economic growth and entrepreneurship at a European level, using the self-employment variable as an empirical proxy. To do so, the writer studies the existing bond between economic growth and certain determining factors such as public expenditure, investment, human capital, and entrepreneurship and also analyses the effects on entrepreneurship caused by such factors as unemployment, taxes, and education. This article uses data from twenty-one European countries, during the period from 2001 and 2011. The results obtained show a significant relationship between entrepreneurship and the three determining factors analyzed. © 2015, Copyright © Taylor & Francis Group, LLC.	Entrepreneurial activity effects	E
Lisi G., Pugno M.	A matching model of endogenous growth and underground firms	2015	International Journal of Economic Theory	Economic growth and unemployment exhibit an ambiguous relationship, according to empirical studies. This ambiguity can be investigated by observing the role of the underground economy in shaping the productivity of firms. Indeed, unemployment may be absorbed by underground firms, which adopt backward technology, at the cost of reduced economic growth. Alternatively, unemployment diminishes because productivity grows by employing workers who prefer to become skilled, and thus not to work in underground firms. This paper develops these arguments by using a matching model with underground firms and heterogeneous entrepreneurial ability, and by assuming skills-driven growth. Economic growth thus becomes endogenous, and both the underground sector and unemployment become persistent. The main result is that, under conditions of strict monitoring of the regularity of firms, the underground economy is squeezed, unemployment is reduced, and growth is high, whereas in the case of lax monitoring, the underground economy expands, unemployment is absorbed, and growth is low. © IAET.	Underground economy effects	F

Attamah N., Anthony I., Ukpere W.I.	The impact of fiscal and monetary policies on unemployment problem in Nigeria (Managerial economic perspective)	2015	Risk Governance and Control: Financial Markets and Institutions	This paper investigates the impact of fiscal and Monetary Policies on Unemployment Problem in Nigeria and covers the periods 1980 to 2013. To achieve this, fiscal policy was captured here by government expenditures and revenues respectively while monetary policy was proxied by broad Money Supply (M2), Interest and Exchange rates respectively. The methodology adopted was econometric analysis employing OLS techniques and unit roots of the series were examined using the Augmented Dickey-Fuller after which the co-integration tests was conducted using the Engle Granger approach. Error correction models were estimated to take care of the short run dynamics. It was found that while government expenditure had a positive relationship with unemployment problem in Nigeria, the result of government revenue was negative and insignificant on unemployment problem. For monetary policy, it was found that money supply and exchange rate had positive and significant impact while interest rate has only a positive relationship on unemployment problem in Nigeria. This meets the a priori expectation. The study also revealed that increases in interest and exchange rates escalate unemployment by increasing cost of production which discourages the private sector from employing large workforce. On the other hand, national productivity measured by real GDP had a negative and significant impact on unemployment rate in Nigeria. This paper recommends that for an effective combat to unemployment problem in Nigeria, there should be a systematic diversion of strategies, thus more emphasis should be laid on aggressively pursuing entrepreneurial development and increased productivity. Again government should aggressively focus on investment, employment generation and economic growth that has mechanism to trickle does to the masses. © 2015, Virtus Interpress. All rights reserved.	Policy maker effects	E
Islam R.	Pursuing the employment goal: need for re-thinking development strategies	2015	Indian Journal of Labour Economics	This paper addresses the issue of how the employment goal can be defined and how it can be pursued in developing countries. In doing so, it questions the following three conventional wisdoms in this area: (i) Economic growth always leads to job creation. (ii) When growth is not accompanied by job creation, it primarily occurs due to rigidities in the labour market, and (iii) a large part of the unemployment problem must be due to lack of education and skills among the labour force. Empirical evidence has been used to examine and dispel these conventional notions. And on that basis, it is argued that a re-thinking in development strategies is needed in order to effectively address the goal of full and productive employment in developing countries. A combination of macroeconomic and sector level policies and appropriate labour market policies is needed to achieve the goal of economic transformation and diversification that is critical for making growth more job-rich. © 2016, Indian Society of Labour Economics.	Policy maker effects	A+E
Nayyar D.	Globalization and employment	2015	Indian Journal of Labour Economics	This article analyzes the implications and consequences of globalization for employment in developing countries and industrialized economies. It shows that, starting 1980, economic growth has slowed down and unemployment levels have been higher, while employment creation has been slower, as compared with the preceding three decades. Such jobless growth, which is the outcome of policies that have stressed more openness in trade, investment and finance, has dampened output growth through a worsening income distribution. The problem has been accentuated by orthodox macroeconomic policies that stress price stability and balanced budgets. Instead, if macroeconomic policies focus on fostering employment creation and supporting economic growth in the national context, employment would revive growth and reduce inequality. This would also be conducive to growth with stability in the world economy. © 2015 Indian Society of Labour Economics.	Policy maker effects	A

Kallianiotis I.N.	Economic crises and the substitution of fiscal policy by monetary policy	2015	International Journal of Economics and Financial Issues	The paper discusses the latest economic crisis and the public policies used to mitigate the recession and improve the economic growth. The current target rate (monetary policy) is closed to zero since December 2008 with a new experimental policy ("quantitative easing") to stimulate investment, growth, and employment. The abandonment of the fiscal policy and the current U.S. tax system, which reduces the disposable income and makes savings negative (dissaving or borrowing) has contributed to this slow growth of output and persistent unemployment. This policy has increased the debt of individuals and the low taxes on businesses have magnified the budget deficits and the national debt. Individuals are borrowing the present value of their uncertain future wealth to satisfy their current consumption and their high debt and low income raise the risk and this high risk premium increases the interest rate on uncollateralized loans, especially on credit cards. The U.S. government has to increase corporate taxes, which will lower the national debt; but at the same time, it has to reduce government expenditures (mostly, military expenditures and national defense), curbing inefficiencies, corruption, and increasing public investment (infrastructures). The public policies must be mixed policies (fiscal and monetary) to improve growth and employment first and then to reduce inflation and interest rates. The current one-sided monetary policy and the tax system need to be changed and become optimal, which are essential to improve social welfare, fairness, equity, justice, and to benefit the neglected middle class (the 90% of the population) in the country. This middle class works and pays just taxes and interest (redistribution of its wealth to government and banks), due to its low disposable income, high unemployment, and unfavorable monetary policy. Impoverishing the middle class will deteriorate the entire state of our socio-economic system and it might threaten the existence of the nation. © 2015, Econjournals. All rights reserved.	Policy maker effects	A
Chiloane-Tsoka G.E., Botha A.	Factors influencing urban youth entrepreneurship development in sub-Saharan Africa	2015	Problems and Perspectives in Management	Africa's population is growing rapidly and African youth currently has limited income opportunities other than selfemployment. Globally there are more than 1 billion young people between the ages of 15 and 24 defined as youth by the United Nations. According to the International Labour Organization, an estimation of 85% of young people live in developing economies such as African economy, and anticipate that for the next 10 years close to 100 million young people will enter the global workforce every year. The purpose of this paper is to identify the factors driving youth entrepreneurship as well as challenges limiting urban youth entrepreneurs' ability to contribute meaningfully to economic growth and reducing unemployment across sub-Saharan Africa (SSA) using a quantitative research approach. 533 questionnaires were purposive administered and 431 were completed, a response rate of 82.6% was achieved. Mozambique and Namibia were excluded due to language proficiency. Swaziland response rate was very poor and thus was discarded and regarded as spoilt questionnaires. The findings indicate that youth do not start business out of necessity and that role models play a major role in influencing youth to start business in sub-Saharan region. © Germinah Evelyn Chiloane-Tsoka, Amrei Botha, 2015.	Entrepreneurial activity effects	A
Popescu M.E., Lazăr M.-I.	Sustainable growth in the European union	2015	Quality - Access to Success	Sustainable growth is both the desiderate and the solution for all economies. Implementing sustainable policies is, however, an objective difficult to meet. Having this in view and considering also the challenging issues regarding competitiveness gaps and increasing debts faced by the European economies during the last years, we aim to determine the influence of current account balances and (un) sustainable public finances on economic growth. Taking into consideration the three main pillars of sustainable development, we included in the analysis aspects regarding social sustainability, as labour productivity and unemployment rate. Using panel data simulations and data for all 28 European Union member states, we modelled economic growth and concluded on future prospects of sustainability. © 2015, SRAC - Societatea Romana Pentru Asigurarea Calitatii. All rights reserved.	Policy maker effects	F+E
Gaspareniene L., Remeikiene R.	The impact of FDI on lithuanian economics	2015	WSEAS Transactions on Business and Economics	The scientific literature emphasizes that FDI can cause not only economic growth, but also economic suppression. This article is aimed at the research of the impact of FDI on Lithuanian economics by analysing the changes of three main macroeconomic indicators-GDP, unemployment rate and export. The methods of the research include systematic analysis of the scientific literature, statistical data analysis and correlation regression analysis. The results of the research have revealed that, in Lithuanian case, there exists strong correlation between FDI and GDP as well as between FDI and export. The correlation between FDI and unemployment rate is very weak, although there is a tendency that increasing income from FDI contributes to unemployment rate decrease since FDI	Policy maker effects	A+E

				determines creation of work places and development of industrial processes.		
Cournède B., Garda P., Ziemann V.	Effects of economic policies on microeconomic volatility	2015	OECD Journal: Economic Studies	Economic policies shape how much people earn, as well as how stable their income and jobs are. The level and stability of earnings both matter for well-being. Standard economic aggregates do not measure accurately the economic uncertainty which households are facing. This paper shows that household-level economic instability is only very loosely related to macroeconomic volatility. It uses several household-level databases to document how structural reforms aimed at boosting growth influence household-level economic stability. Movement from less to more productive processes and firms is at the heart of economic growth, which suggests a trade-off between growth and micro-level stability. Certain policy changes boost growth but increase micro-level instability: they include reductions in tax progressivity or social transfers (including unemployment benefits), as well as moves from very to moderately tight restrictions on the flow of goods and services and on the firing of regular workers. However, the analysis also uncovers that moving to highly competitive policies in general reduces micro-level instability. This finding points to a case for comprehensive rather than marginal reform in tightly regulated countries, since a comprehensive agenda can deliver higher growth without the instability costs that a more marginal reform can entail.	Policy maker effects	E
Martincova M.	Theoretical aspects of correlation between economic growth and unemployment	2015	Actual Problems of Economics	The paper analyses the correlation between the volume of work (employment) and the size of gross domestic product (GDP). Such factor of production as labor is one of the sources for economic growth. This relation between changes in GDP growth and changes in the unemployment rate has been researched and quantified by A. Okun. While in the 1960s the Okun's law was considered to be one of the most important macroeconomic correlations, in the 1980–1990s this correlation was regarded as unstable, mainly due to inflexible labor market, too high wages and unemployment benefits. Today outsourcing and offshoring began to significantly affect the link between production capacities, national labor market and the overall impact of transnational corporations on the global economy. © Marta Martincova, 2015.	Initial effects	A
Zavaleta Vázquez O.H., Martínez Silva I.D.	Economic growth and development of capital markets in mexico [La croissance économique et le développement du marché de capitaux au mexique] [Crescimento econômico e desenvolvimento do mercado de capitais no	2015	Innovar	Several authors claim that the development of the financial system, in general, and the financial markets, in particular, depend on the country's economic development, since the need for financial services and the financing of production projects will increase as a consequence of the growth of the real economy. In contrast, there is another idea stating that the growth of real economy depends, partly, on the development of the financial system. The purpose of this paper is to estimate a structural econometric model to analyze the influence of capital market performance on the growth of Mexican economy, taking into account the main factors that determine the growth of real economy. The period studied is between April-2000 and August-2010. Results show that the performance of capital markets in Mexico has a weight on the growth of domestic economy that is similar to that of the reduction of unemployment rate, and it is practically three times greater than the one caused by remittances on the real economic growth. Additionally, its impact is considerably bigger than the one of investment in science and technology and that of the trade balance. © 2015, Universidad Nacional de Colombia. All rights reserved.	Financial markets and Banking sector effects	E

	méxico] [Crecimiento económico y desarrollo del mercado de capitales en México]					
Warburton C.E.S., Booser R.	Monetary policy, financial risk mitigation and unemployme nt in the United States	2015	Applied Econometrics and International Development	This paper uses time series data to investigate the effect of monetary policy on financial risk mitigation and unemployment. The literature generally reflects imprecise conclusions about the efficacy of the channels through which monetary policy is capable of achieving economic growth and stable prices. We have focused on stock prices, unemployment and monetary policy variables to see if there is a robust interaction among the variables and whether stock prices and monetary policy have significant explanatory power over employment, a very important variable for aggregate consumption. By subjecting our predictive hypothesis to tests and simulating the effects of macroeconomic shocks, we conclude that beyond the channels that directly impinge on the real sector, Tobin's q is important for understanding how and why monetary policy is relevant to financial risk mitigation and the level of unemployment.	Policy maker effects	A+E
Grabia T.	Interest rate policy of selected central banks in Central and Eastern Europe	2015	Comparative Economic Research	The aim of this article is to present and evaluate interest rate policies of three selected central banks in Central and Eastern Europe (Poland, the Czech Republic, and Hungary) from 2001 to 2013. The study consists of an introduction (Section 1) and three main parts. The introduction contains a theoretical description of the role of interest rate policy, the dilemmas connected with it, as well as an analysis of the strategies and goals of monetary policies of the National Bank of Poland (NBP), the Czech National Bank (CzNB), and the National Bank of Hungary (NBH) in the context of existing legal and institutional conditions. In turn, the first empirical part (Section 2) examines how the analysed central banks responded to changes in inflation, unemployment, and economic growth rates. The tools of the analysis are the nominal and real interest rates of those banks. The subsequent research part (Section 3) attempts to evaluate the degree of the contractionary nature of interest rate policies in specific countries in the context of the Taylor rule. The text ends with a summary (Section 4) encompassing concise conclusions drawn from the earlier analyses. Copyright © 2011-2015 by Walter de Gruyter GmbH.	Policy maker effects	A+E
Heyes J., Lewis P.	Employment protection under fire: Labour market deregulation and employment in the European Union	2014	Economic and Industrial Democracy	Employment protections are currently being targeted by European policy makers seeking solutions to persistently high levels of unemployment and weak economic growth. This article argues that labour market deregulation is unlikely to usher in a period of renewed growth in good quality jobs. The findings point to the important role of employment protections in stemming job losses in the initial stages of the economic crisis that began in 2008, although protections have not prevented subsequent heavy job losses in the most distressed economies. The study also finds that involuntary participation in non-standard employment has increased since the crisis and shows that this has resulted in an increased risk of in-work poverty. © The Author(s) 2013.	Labour market institutions and bargaining structure	E
J Gordon R.	The turtle's progress: Secular stagnation meets the headwinds	2014	Geneva Reports on the World Economy	US real GDP has grown at a turtle-like pace of only 2.1% per year in the last four years, despite a rapid decline in the unemployment rate from 10% to 6%. This column argues that US economic growth will continue to be slow for the next 25 to 40 years – not because of a slowdown in technological growth, but rather because of four 'headwinds': demographics, education, inequality, and government debt. © CEPR Press, 2014.	Policy maker effects	A

Palley T.I.	A neo-Kaleckian-Goodwin model of capitalist economic growth: Monopoly power, managerial pay and labour market conflict	2014	Cambridge Journal of Economics	This paper presents a neo-Kaleckian-Goodwin model of growth and distribution. The key innovation is the introduction of managerial pay. Kaleckian monopoly power determines the functional distribution of income and Goodwin labour bargaining power determines the wage-bill division. The model helps explain slower US growth over the past 30 years. For much of that period the functional distribution of income was relatively constant, but growth slowed because income inequality increased owing to a wage-bill shift from workers to managers. The wage-bill division effect explains why economies can display wage-led and profit-led characteristics. Economies can be profit-led regarding functional income distribution and wage-led regarding wage-bill distribution. © The Author 2013.	Labour market institutions and bargaining structure	F
Sabella A.R., Farraj W.A., Burbar M., Qaimary D.	Entrepreneurship and economic growth in west bank, palestine	2014	Journal of Developmental Entrepreneurship	This paper examines the nature of the relationship between entrepreneurship and economic growth in the West Bank of the Palestinian territories that occurred post Oslo Agreement. The paper has two main objectives: first, to examine with empirical evidence the impact of entrepreneurship on economic growth; second, to explore the effect of two control variables on the relationship-checkpoints and international aid-which are unique to this particular study. Using data spanning over a course of sixteen years, various statistical methods were applied to explain the effect of variant levels of entrepreneurial activity on GDP and unemployment. The results show that contrary to a reservoir of research, entrepreneurship appeared to have no significant impact on economic growth. This can be explained by the fact entrepreneurial activity is expected to decrease as a result of growth in the economy as new jobs are created. © 2014 World Scientific Publishing Company.	Entrepreneurial activity effects	A+E
Schneider F., Hametner B.	The shadow economy in Colombia: Size and effects on economic growth	2014	Peace Economics, Peace Science and Public Policy	Using the currency demand approach, size and development of Colombia's shadow economy are estimated over the period from 1980 to 2012. The results show a great extent of shadow economic activity varying over time between 27 and 56% of GDP. The most important factors driving the shadow economy are indirect taxation and unemployment. Analyzing the interaction between shadow and official economy, the shadow economy has a negative effect on the official one. Average growth of real per capita GDP is 1.86% between 1980 and 2012, without shadow economy it would have been higher around 0.12 percentage points on average. © 2014 by Walter de Gruyter Berlin/Boston.	Underground economy effects	E
Petkov V.S.	Advantages and disadvantages of fiscal discipline in Bulgaria in times of crisis	2014	Contemporary Economics	The global economic crisis of 2008 has posed serious challenges to the Bulgarian economy and was reflected in worsened macroeconomic indicators. The subsequent sovereign debt crisis in Europe further aggravated the situation and blocked its path to recovery. In line with the overall sentiment in the European Union (the EU), Bulgaria made maintaining fiscal stability a priority that it set out to accomplish by following a policy of austerity. The country managed to achieve the desired effect relatively quickly. It became one of the best performers in terms of budget deficit and government debt as a share of GDP (which are among the lowest in the EU). These accomplishments underlie international institutions' greater confidence in Bulgaria, which has led to an increase in its credit rating. Nevertheless, the state has not managed to reap the maximum benefits that this type of policy offers. Fiscal sustainability was accomplished at the expense of economic growth, the slow pace of which was accompanied by impoverishment of the population, high unemployment, restricted consumption, and operational difficulties faced by real-sector companies. These problems fueled doubts about the adequacy of strict budget discipline, especially in times of crisis. They provoked the author to examine in greater depth the benefits and the drawbacks that such a policy ultimately offers to Bulgaria. The results show that the strict fiscal measures have put additional pressure on the already fragile economic growth and have a high social cost as well. All this justifies the need for the government to take on a new course to achieve economic recovery by means of more active state support that would stimulate a pickup in consumption and production activity.	Policy maker effects	E

Chang J.-J., Hung H.-W.	Trade unions, unemployment, economic growth, and income inequality	2014	Macroeconomic Dynamics	In this paper, unemployment, growth, and income inequality are interdependent and endogenously determined in a unified model of a trade union. Analytically, we show that the effective labor force exhibits an intensive margin response, in the sense that in response to higher unionization the number of employed workers decreases, but each individual employed worker provides more working hours. This intensive margin response leads to the possibility of the coexistence of high unemployment and high growth. Moreover, unionization gives rise to an ambiguous effect on income inequality, whereas it has an unambiguously positive effect on the labor income share and growth rate. Our numerical study shows that the elasticity of substitution between labor and capital plays an important role in governing the steady-state consequences and affecting the impact of (de-) unionization. These results provide not only a plausible explanation of the empirical evidence, but also a reconciliation for the disparity in the empirical findings. © 2014 Cambridge University Press.	Labour market institutions and bargaining structure	F
Liu W.S., Agbola F.W.	Regional analysis of the impact of inward foreign direct investment on economic growth in the Chinese electronic industry	2014	Applied Economics	This article empirically investigates the impact of inward foreign direct investment (FDI) on regional economic growth in the Chinese electronic industry (CEI). Utilizing a provincial-level panel data spanning the period 1989 to 2009, we specify and estimate an endogenous economic growth model for the CEI. Empirical results indicate that, for the coastal region, FDI inflows have been growth enhancing, while in the central and western regions the impact of FDI on economic growth is mixed, depending on the channel of capital flow. Results also indicate that exports, human capital, science and technology investment and fixed asset investment are growth enhancing, while unemployment and foreign R&D investment are growth impeding in the CEI. © 2014 © 2014 Taylor & Francis.	Policy maker effects	F+E
Burger R.P., Van Fintel D.P.	Rising unemployment in a growing economy: A business cycle, generational and life cycle perspective of post-transition South Africa's labour market	2014	Journal for Studies in Economics and Econometrics	This paper performs age-period-cohort decompositions of post-apartheid South African labour market outcomes in a period where unemployment worryingly rose, despite robust economic growth. We disentangle short-term from long-run factors, concluding that the first post-transition decade led to higher equilibrium unemployment. Claims of jobless growth over the business cycle are invalidated, with unemployment following a counter-cyclical pattern. Rather, generational components highlight long-run wage rigidities, decreases in labour demand within poorly educated groups and a gradual increase in participation amongst the most recent birth cohorts, reflecting higher education levels and changes in household formation. A disproportionate surge in entry amongst the very youngest (who were affected by post-transition education reforms) explains why unemployment rose in spite of an economic upswing in this period, and raises the concern of labour market scarring for this group.	Structure change, productivity growth, education and training	E
Weller J.	Aspects of recent developments in the Latin American and Caribbean labour markets	2014	Cepal Review	This article presents three stylized facts that characterized the evolution of labour markets in Latin America and the Caribbean in the period 2003-2012 and represented breaks from previous trends. It is argued that these changes have to do with the economic and production context and the political and institutional framework. We show how the magnitude and patterns of economic growth impact on the nature of job creation, especially on shifts within and between economic sectors and the various segments of different productivity levels. We emphasize how changes in labour institutions have contributed to the evolution of labour indicators and, lastly, look at recent advances and persistent weaknesses in labour performance, as well as a number of risks to the continuity of recent favourable labour trends. © 2014, United Nations Publications. All rights reserved.	Labour market institutions and bargaining structure	E

Bayar Y.	Effects of economic growth, export and foreign direct investment inflows on unemployment in Turkey	2014	Investment Management and Financial Innovations	There have been significant increases in trade volume and foreign direct investment flows in the world in parallel with globalization since 1980s. This study examines the relationship between unemployment, economic growth, export and foreign direct investment inflows in Turkey during the period of 2000:Q1-2013:Q3 by using bound testing approach based on autoregressive distributed lag. We found that there was long run relationship among unemployment, economic growth, export and foreign direct investment inflows. Moreover empirical findings demonstrated that there was a negative relationship between unemployment and economic growth, export, while there was a positive relationship between unemployment and foreign direct investment inflows. © Yilmaz Bayar, 2014.	Policy maker effects	E
Hartwig J.	Testing Okun's law with Swiss industry data	2014	Applied Economics	Okun's law postulates a stable relationship between quarterly output growth and changes in (un)employment. This proposition has so far been tested with macroeconomic data at the highest level of aggregation. The article goes beyond that in extending the analysis to industry data from Switzerland, applying a method suggested by the International Monetary Fund. Another focus is on whether expansions in production have become more 'jobless' over the most recent business cycle compared to earlier ones. This does not seem to be the case in Switzerland, except in the construction industry. © 2014 © 2014 Taylor & Francis.	Initial effects	E
Marieta M.D.	Analysis of public debt in the European union - Issues related to its sustainability	2014	Journal of International Studies	The purpose of this paper is to analyze the public debt in the EU member countries based on the "golden rule" of state indebtedness. This study analyzes the type of relationships that exist in the European Union (EU27) in the period 2008-2012, between the level of the public debt and: public investments, unemployment rate and economic growth in order to identify the destinations and effects of the public debt that represent pillars in the analysis of its sustainability. The analysis revealed an inverse relationship between public debt and public investments, thus increasing the public debt is not listed in stimulating public investments, but on the contrary it can be noticed their decline. © CSR, 2014.	Policy maker effects	E
Oyelana A.A., Fiseha G.G.	An investigation into the effect of small and medium enterprises (SMEs) on the socio-economic development of alice in Eastern Cape Province, South Africa	2014	Mediterranean Journal of Social Sciences	Nowadays, economists' believe that Small and Medium Enterprises (SMEs) played an important role in improving socioeconomic development of a nation. Hence, for more jobs to be created, poverty to be alleviated, there is a need for the government to encourage more SMEs establishment in the country. This study investigated the effect of SMEs in the socioeconomic development of Alice in terms of poverty alleviation, reduction of unemployment and crime. The objective of this study was to assess the role of SMEs in the socio-economic development of Alice. Data was collected through selfadministered questionnaires and the use of random sampling. Quantitative data was analysed using descriptive and inferential statistics of Chi-square as the statistical tool. The findings of this study suggest that SMEs are not playing a substantial role in addressing the challenges related to high unemployment, crime, and poverty reduction. SMEs are neither enhancing living standards nor stimulating economic growth and development in Alice due to a number of challenges, namely lack of finance, lack of managerial skills, inadequate advice and information, and lack of training and education. The study recommended that to increase the contribution of SMEs in the socio-economic problems of Alice, it is important to have a clear policy and strategy towards the development of SMEs and would also require commitment from government, civil society and business people. © 2014, Mediterranean Center of Social and Educational Research. All Rights Reserved.	Entrepreneurial activity effects	E
Mahadea D.	Enterprising and delivering a better quality of life for all in South Africa: Progress and prospects	2014	Mediterranean Journal of Social Sciences	Delivering a better quality of life for all is a top goal of policy-makers in South Africa. Since the country has become a democracy in 1994, considerable progress has been made in empowering citizens with opportunities towards a better life and in providing them with education, housing and other social services. The expansion of state services has been facilitated by positive economic growth rates to finance the rising welfare redistributions. However, employment has lagged behind output growth, resulting in high levels of unemployment, income inequality and poverty, though this is partly eased by the social grants from the government. This paper examines the progress, challenges and prospects of delivering a better quality of life in South Africa. The prospects for the state sector to enhance the delivery of a better life through the welfare net are limited, while considerable backlogs in service delivery still exist. Some of the challenges, particularly to enhanced job creation and enterprising are	Entrepreneurial activity effects	A+E

				associated with labour legislation, low entrepreneurial capacity and education limitations. Using data on unemployment, entrepreneurship (TEA) and real per capita GDP for the period 2000-2012, preliminary regression results indicate that unemployment is inversely related to the country's TEA rates and growth in real GDP per head impacts significantly on reducing unemployment.		
Loría E., Salas E.	A Nonlinear Relationship: Unemployment and Economic Growth (Construction Sector) in Spain, 1995.1–2012.2	2014	International Advances in Economic Research	A quadratic version of the first-difference Okun's Law model was estimated for Spain (1995.Q1-2012.Q2). An accelerationist version of Okun's Law was obtained, which allowed us to calculate variable Okun coefficients as well as critical points in the relationship between construction sector growth and the variation in overall unemployment. The optimal economic growth rate was determined to be 7.38 %. By applying principal components, it is demonstrated that this sector led the economic process after 1995. © 2014, International Atlantic Economic Society.	Initial effects	E
Corliss M., Lewis P.	Joblessness, taxable income and regional divergence over time	2014	Economic Papers	The debate over regional inequality and economic growth is ongoing. Previous research has shown that economic growth reduces regional disparity in the unemployment rate and increases regional disparity in income as measured by Census data. This paper examines the jobless rate and income from taxation data to further explore the effect economic growth has had upon regional inequalities. Here, we find while economic growth acts to significantly reduce jobless rates, the differences between statistical local areas is much more stubborn particularly for remote regions. Additionally, we show a much stronger link between economic growth and regional divergence in market income, with changes in economic growth impacting mostly upon statistical local areas with higher median incomes located in capital cities and remote regions. © 2014 The Economic Society of Australia	Inequality and income distribution	E
Aspilaire R.	The shadow Economy in Haiti: A counter-cyclical impact on GDP? [L'économie informelle en Haïti: Un impact contracyclique sur le PIB ?]	2014	Mondes en Developpement	We use a MIMIC model to estimate the size of shadow economy in Haiti as a share of GDP. The econometric modeling encapsulates nine causal variables and two indicators over the period 2000-2010. It shows that the fall in GDP, the rise in taxes and government expenditures and increasing inflation are the main factors that influence the growth of the shadow economy. This growth of the shadow economy has a knock-on effect on the unemployment rate during these last ten years. From 2007 to 2010, worse is the GDP growth per annum and better is the growth of the shadow economy; thus, suggesting that the latter may be counter-cyclical.	Underground economy effects	E

Authors	Title	Year	Source	Abstract		
Moroke N., Leballo G.P., Mello D.M.	An empirical Robustness of Okun's law in South Africa: An error correction modelling approach	2014	Mediterranean Journal of Social Sciences	Key intension of this paper was to verify Okun's law in the South African perspective using data of the period 1990Q1 to 2013Q1. After detrending the series, the first lag and rank were used in the analysis to estimate Okun's coefficient. The coefficients obtained were not in accordance with an acclaimed 3%. The short run model confirmed that a speed of 12.8% per quarter may be required to enable the system of unemployment rate in the country to be inverted back to normal. Toda- Yamamoto causality test reported no feedback associations between unemployment and GDP in SA. Empirically, evidence provides positive coefficients implying inapplicability of Okun's law to South Africa. Nonetheless, unemployment still remains high according to the South African standards and it has to be dealt with amicably. The paper recommends to government and policy makers to up their games by employing economic policies that are more focused on to operational changes and makeover in workforce market. © 2014, Mediterranean Center of Social and Educational Research. All right reserved.	Initial effects	F+E
Škare M.	How useful is the golden triangle law in economics?	2014	Technological and Economic Development of Economy	We explore the long term relationship between unemployment, inflation and output in the United Kingdom during 1851-2011 in search for a possible "golden triangle" connecting "natural" unemployment, price stability and strong (fast) rates of output growth. Exploring the possibility of existence of such internal macroeconomic equilibrium is important in setting and attaining these most acclaimed macroeconomic objectives. Not only could the results be applied in setting policy objectives but also unveil if low unemployment, stable prices and fast growth are supportive objectives. Preliminary results are encouraging and open the path for further research on the subject. Not a single economic policy designed on just a vague notion on the relationship between inflation, unemployment and output should be used since it will bring disaster to the economy. © 2014 Vilnius Gediminas Technical University (VGTU) Press.	Policy maker effects	E
Lesmes Patiño J.A.	Technological progress and unemployment in Colombia: An approximation from the matching models [Progreso tecnológico y desempleo en Colombia: Una aproximación desde los modelos de búsqueda]	2014	Desarrollo y Sociedad	In Colombia, the nineties was a period characterized by significant increases in unemployment, especially since the second half of the decade. Although several reasons have been discussed in order to explain this increase, it has been given very little attention to the effect of technological progress, which showed a significant measured as the growth of Total Factor Productivity (TFP), it recorded a significant slowdown for the period 1996 - 2000. Through the quantitative application of Pissarides and Vallanti model (2007), that a negative model with economic growth and frictions in the labor market, this paper shows that negative relationship between technological progress and unemployment could only be explained by the dominance of capitalization effect, where lower rates of TFP growth would have discouraged the creation of jobs and generated an unemployment's increase. However, it was found that, even in the extreme case where all technological progress would have operated under this effect, the slowdown in TFP observed during the period 1996-2000 does not explain the increases in unemployment, indicating that other factors different to technological progress are the ones that explain which explain this phenomenon.	Initial effects	E
Zimmermann K.F., Biavaschi C., Eichhorst W., Giulietti C., Kendzia M.J., Muravyev A., Pieters J.,	Youth unemployment and vocational training	2013	Foundations and Trends in Microeconomics	This paper focuses on the determinants of the labor market situation of young people in developed countries and the developing world, with a particular emphasis on the role of vocational training and education policies. We highlight the role of demographic factors, economic growth and labor market institutions in explaining young people's transition into work. Subsequently, we assess differences between the setup and functioning of the vocational education and training policies across major world regions as an important driver of differential labor market situation of youth. Based on our analysis, we argue in favor of vocational education and training systems combining work experience and general education and provide some policy recommendations regarding the implementation of education and training systems adapted to a country's economic and institutional context. ©	Policy maker effects	E

Rodríguez-Planas N., Schmidl R.				2013 K. F. Zimmermann, C. Biavaschi, W. Eichhorst, C. Giulietti, M. J. Kendzia, A. Muravyev, J. Pieters, N. Rodríguez-Planas, and R. Schmidl.		
Boubtane E., Coulibaly D., Rault C.	Immigration, growth, and unemployment: Panel VAR evidence from OECD countries	2013	Labour	This paper examines empirically the interaction between immigration and host country economic conditions. We employ panel vector autoregression (VAR) techniques for a large annual data set on 22 OECD countries over the period 1987-2009. The VAR approach addresses the endogeneity problem by allowing for endogenous interactions between the variables in the system. Our results provide evidence of migration contribution to host economic prosperity (positive impact on GDP per capita and negative impact on aggregate unemployment, native- and foreign-born unemployment rates). We also find that migration is influenced by host economic conditions (migration responds positively to host GDP per capita and negatively to host total unemployment rate). © 2013 CEIS, Fondazione Giacomo Brodolini and John Wiley & Sons Ltd.	Migration and Brain Drain	E
Boubtane E., Coulibaly D., Rault C.	Immigration, unemployment and GDP in the host country: Bootstrap panel Granger causality analysis on OECD countries	2013	Economic Modelling	This paper examines the causality relationship between immigration, unemployment and economic growth of the host country. We employ the panel Granger causality testing approach of Kònya (2006) that is based on SUR systems and Wald tests with country specific bootstrap critical values. This approach allows one to test for Granger-causality on each individual panel member separately by taking into account the contemporaneous correlation across countries. Using annual data over the 1980-2005 period for 22 OECD countries, we find that, only in Portugal, unemployment negatively causes immigration, while in any country, immigration does not cause unemployment. On the other hand, our results show that, in four countries (France, Iceland, Norway and the United Kingdom), growth positively causes immigration, whereas in any country, immigration does not cause growth. © 2013 Elsevier B.V.	Migration and Brain Drain	E
Vojtovich S.	The impact of emigration on unemployment in Slovakia [Emigracijos įtaka nedarbui slovakijoje]	2013	Engineering Economics	This study deals with one of the current and relatively often discussed phenomenon, which accompanies economic and social development in both developed and economically struggling countries. The economic development of Slovakia is no exception. The analysis of both unemployment as an economic and social phenomenon and unemployment trends is conducted in relation to the period of stabilization and relative economic growth, which followed after the transformation of economic systems in countries of Central and Eastern Europe. The main objects of this analysis are primarily trends in the economic development, trends in the job creation, and the impact of direct foreign investments on the development of unemployment. Migration of labour force abroad is another important variable entering the analysis. The focus is placed predominantly on the migration flows into foreign countries and also on their impact on the development of unemployment rate. From the previous analyses and observations of real processes occurring in this particular field we know that under certain circumstances high unemployment rate results in the growth of migration flows of labour force abroad. But during the studied period under the conditions of relatively quick economic growth in Central and Eastern Europe we can observe different trends when it comes to the connection between unemployment rate, economic growth and migration flows. Trends in the economic development during this period, in the development of unemployment rate and in the emigration flows and their causality do not match our knowledge and ideas about these phenomena and processes in the entrepreneurial, political or academic environment. Therefore, this study aims to conduct an analysis of the above mentioned phenomena and processes and offer a reasoned and adequate concept about the trends in their development. © 2013, Kauno Technologijos Universitetas. All rights reserved.	Migration and Brain Drain	A+E

Greiner A.	Sustainable Public Debt and Economic Growth under Wage Rigidity	2013	Metroeconomica	We analyse the effects of public debt on economic growth in a basic endogenous growth model with persistent unemployment due to wages rigidities. We show that there exists either a unique balanced growth path or there are two balanced growth paths depending on structural parameters and on the flexibility of the labour market. Further, public debt does not affect long-run growth and employment but only stability of the economy. Stability is more likely when governments put a high weight on stabilizing the debt to GDP ratio. © 2012 Blackwell Publishing Ltd.	Policy maker effects	F
Alcott B.	Should degrowth embrace the Job Guarantee?	2013	Journal of Cleaner Production	Degrowth should consider the right to work - a Job Guarantee (JG) - as a way of making a smaller economy more just and socially sustainable. Economic shrinkage in richer countries is accompanied by increased unemployment, a bad enough problem in itself but also a barrier to voters' acceptance of the degrowth path. Since being out of work is distinct from being poor, anti-poverty income policies should be approached separately. The JG is one of several paths to full employment, including reduced working time. This essay only briefly mentions some real-world JG programs and some technical objections. The main suggestion is to move employment from being a matter of economics, particularly economic growth, to being a political right. A right to work is necessarily effective and would avoid sacrificing the ecological and social goals of degrowth on the altar of full employment. © 2011 Elsevier Ltd. All rights reserved.	Policy maker effects	A
Křístková Z.	Analysis of private R&D effects in a CGE model with capital varieties: The case of the Czech Republic	2013	Finance a Uver - Czech Journal of Economics and Finance	In view of the increasing importance of private research in the Czech economy and elsewhere in Europe, this paper attempts to quantify the effect of private R&D on economic growth by applying a Computable General Equilibrium (CGE) model which incorporates the effects of capital varieties following Romer's theory of endogenous growth. It was discovered that the dynamics of GDP growth are positively related to the production of capital varieties and the elasticity of substitution between homogenous and variety capital. For the Czech Republic, a small and export-oriented economy, sup-port for private R&D can be particularly beneficial since it stimulates the exports of important industries. However, with regard to households, a policy of stimulating R&D could cause short-term adverse effects due to growing unemployment resulting from the substitution of labor for capital varieties.	Structure change, productivity growth, education and training	F+E
Dimian G.C., Ileanu B., Jablonský J., Fábry J.	Analysis of European labour market in the crisis context	2013	Prague Economic Papers	The purpose of this paper is to investigate the determinants of labour market dynamics in EU-27 in the recent period and to assess their impact on the process of economic development. The degree of originality is given by our choice to focus on the comparative analysis of two periods of time: 2000-2007, when the European Union as a whole, but especially Central and Eastern European countries as well as Mediterranean ones experienced signifi cant improvements in labour market performances and overall competitiveness and 2008-2010, a recession period characterized by a massive loss of jobs and an equally large increase in unemployment, with anticipated consequences on economic growth. The main interest is to look for the key factors that determine the lasting performances of the leading European economies and possible solutions for ensuring the sustainable growth of the others.	Labour market institutions and bargaining structure	E
Pouw L., Kakes J.	What drives bank earnings? evidence for 28 banking sectors	2013	Applied Economics Letters	The crisis has revived interest in the determinants of bank earnings. We investigate the relationship between profitability and balance sheet composition of 28 national banking sectors. Using Statistical Cost Accounting, we find a plausible pattern of individual assets' and liabilities' contributions to earnings and costs. Both wholesale and retail activities yield positive margins, while interbank lending and customer deposits are the most expensive funding sources. Wholesale finance has a positive effect on profitability, which may explain banks' increasing reliance on it prior to the crisis. Economic growth and unemployment have a procyclical impact, while inflation tends to erode profitability. © 2013 Taylor & Francis.	Financial markets and Banking sector effects	E
Táncošová J.	Foreign direct investments and their influence on the economic	2013	Economic Annals-XXI	This part is dealing with the problem of foreign direct investments (FDI) from the theoretical point of view as well as from the point of view of their influence on economic development of Slovakia. We are characterizing the FDI and pointing at the eclectic theory as one of the most general theories of FDI, which is based on the so called OLI Paradigm. We are analysing the phases of access of FDI in the Slovak economy in connection with the GDP growth, with the speed of economic growth and the development of unemployment. We are comparing the inflow	Policy maker effects	E

	development of Slovakia			of FDI with the development of basic macroeconomic indicators in economy as well as in individual regions of Slovakia arriving at the conclusion that the FDI belong to effective factors of economic growth, they reduce unemployment and influence regional disparities.		
Tavani D.	Bargaining over productivity and wages when technical change is induced: Implications for growth, distribution, and employment	2013	Journal of Economics/ Zeitschrift fur Nationalokonomie	I study a model of growth and income distribution in which workers and firms bargain à la Nash (Econometrica 18(2):155-162, 1950) over wages and productivity gains, taking into account the trade-offs faced by firms in choosing factor-augmenting technologies. The aggregate environment resulting from self-interested, objective function-maximizing decision rules on wages, productivity gains, savings and investment, is described by a two-dimensional dynamical system in the employment rate and output/capital ratio. The economy converges cyclically to a long-run equilibrium involving a Harrod-neutral profile of technical change, a constant rate of employment of labor, and constant input shares. The type of oscillations predicted by the model is qualitatively consistent with the available data on the United States (1963-2003), replicates the dynamics found in earlier models of growth cycles such as Goodwin (A growth cycle, in C.H. Feinstein (ed). Socialism, Capitalism and Economic Growth. Cambridge University Press, Cambridge 1967. Cambridge University Press, Cambridge, 1967); Shah and Desai (Econ J 91:1006-1010, 1981); van der Ploeg (J Macroecon 9:1-12, 1987); Flaschel (J Econ: Zeitschrift für Nationalökonomie 44:63-69, 1984) and Sportelli (J Econ: Zeitschrift für Nationalökonomie 61(1):35-64, 1995), and can be verified numerically in simulations. Institutional change, as captured by variations in workers' bargaining power, has a positive effect on the long-run rate of growth of output per worker but a negative effect on long-run employment. Economic policy can also affect the growth and distribution pattern through changes in the unemployment compensation, which also have a positive long-run impact on labor productivity growth but a negative long-run impact on employment. In both cases, employment can overshoot its new equilibrium value along the transitional dynamics. © 2012 Springer-Verlag.	Inequality and income distribution	F
Sherif S.	Macroeconomic policy, localization and reducing unemployment: The crucial human resource issues for the uae	2013	Competitiveness Review	Purpose – The purpose of this paper is to analyze the unique unemployment anomaly in the UAE and formulate a long-term, comprehensive strategy to combat effectively the high rates of unemployment among UAE citizens through a national policy. Design/methodology/approach – The policy recommendations of this study constitute a package of interrelated policies designed carefully to provide a long-term solution to a long-term problem – a three-stage plan of action termed the federal plan for the development of national human resources (FPDNHR). FPDNHR suggests more effective ways to reduce unemployment by stimulating economic growth, accumulation of capital, development of skills, increasing productivity, reforming the educational system and providing skills consistent with the demands of the labor market. Findings – An effective solution for the UAE unemployment quandary is only possible after the three-step strategy FPDNHR is applied completely. Research limitations/implications – The FPDNHRO as suggested in this study is but a conceptual blueprint for a strategy that requires further research and fine-tuning in order to develop an action plan. Priorities and sequencing must ensure that each element of the strategy is cost-effective. Practical implications – Unemployment is a macro-dilemma and the strategic solution to the unemployment dilemma needs to be based and implemented on a national level through a federally mandated plan; the unemployment program will move in an orderly and strategically top-down manner. Originality/value – This paper fulfills an identified information/resources need and offers a long-term practical solution to a unique macro-dilemma. © Emerald Group Publishing Limited	Policy maker effects	A
Muysken J., Ziesemer T.H.W.	A permanent effect of temporary immigration on economic growth	2013	Applied Economics	Immigration can help to lessen the burden of ageing for the welfare states of most Western economies. To show this, we develop a decomposition framework for Gross Domestic Product (GDP) per capita which deals with the impact of both ageing and immigration on economic growth. Using a Vector Error Correction Model (VECM) for the Netherlands during 1973 to 2009, we demonstrate the empirical relevance of some crucial interactions between elements of that decomposition. The conclusion is that even temporary immigration may help to alleviate the ageing problem through a positive long-term contribution to employment, wages and GDP per capita, as long as the immigrants are able to participate in the labour force in tandem with the native population. Unfavourable	Migration and Brain Drain	E

				short-term effects should be avoided through a gradual phasing in of immigration policies. © 2013 Copyright Taylor and Francis Group, LLC.		
Heer B., Maußner A.	The cash-in-advance constraint in monetary growth models with labor market search	2013	Macroeconomic Dynamics	We study the sensitivity of the inflation-growth trade-off in monetary growth models to the introduction of search frictions in the labor market. We consider three types of endogenous growth models: (1) the AK model, (2) the Lucas supply-side model, and (3) the two-sector model of Jones and Manuelli. We show that the effects depend on the specification of the cash-in-advance constraint and the magnitude of the semi-interest elasticity of the income velocity. For the AK model, economic growth increases with higher inflation. For the other two models, growth declines for the case of the standard cash-in-advance constraint on consumption, whereas it either increases or decreases if money is introduced, as in the cash-credit good economy of Dotsey and Ireland, depending on the semi-interest elasticity of the income velocity. The welfare effects of inflation are shown to be economically significant in the presence of search unemployment. Copyright © Cambridge University Press 2013.	Other effects	F
Vokorokosová R., Peller F.	Credit to households. What impacts the growth in Slovakia?	2013	Ekonomicky casopis	Financial institutions have a special role in the economy. Monetary financial institutions take part on realizing monetary policy and provide economic sub-jects with necessary finances. Majority of credits are granted to households from banking institutions. Therefore the objective of this paper is to identify determi-nants of household credits in Slovakia. Credits to households are positively in-fluenced by disposable income and negatively by unemployment rate, real inter-est rate and earnings from property.	Financial markets and Banking sector effects	E
Nyahokwe O., Ncwadi R.	Impact of exchange rate volatility on unemployment in South Africa	2013	Mediterranean Journal of Social Sciences	Real exchange rate volatility have important effects on production, employment and trade, so it is crucial to understand its impact on unemployment especially on a country like South Africa. This article analyses the impact of the real exchange rate volatility on unemployment and the dynamic adjustment of unemployment rate following shocks to its determinants using quarterly South African data covering the period 2000 to 2010. This article augments the cointegration and vector autoregression (VAR) and the GARCH model including analysis with impulse response and variance decomposition analyses to provide robust long run effects and short run dynamic effects on the unemployment rate. The empirical analysis using a variety of specifications, estimation techniques, and robustness tests suggests that exchange rate volatility has a statistically and economically significant impact on employment. The variables that have been found to have a long run relationship with unemployment rate include the real exchange rate, exports, real interest rate and the gross domestic product. The impulse response functions broadly corroborate the theoretical predictions, but only real interest rate and exports have a significant impact on unemployment in the short run. Results from the variance decompositions are largely similar to those from the impulse response analysis. The real exchange rate and exports are the only variables found to significantly explain the variation in the unemployment. The most interesting result that emerged from this analysis and is supported by previous research is that among other determinants, the real exchange rate explain the largest proportion of the variation in unemployment rate. On balance, the evidence therefore suggests that unemployment rate fluctuations are predominantly equilibrium responses to real exchange rate shocks in comparison with interest rates, economic growth and exports.	Financial markets and Banking sector effects	E

Tvrdon M.	Macroeconomic analysis of labour market performance: The case of the Slovak Republic	2013	Journal of Applied Economic Sciences	The paper deals with development of economic and labor market performance in the Slovak Republic. Consequences of the economic crisis on the labor market, respectively on unemployment are also discussed in the paper. During the crisis, real gross domestic product decreased in the Slovak Republic. Massive drop of gross domestic product led to increase in the unemployment rate. We also compared Slovak economy with another EU New Member States. The main question is if this process was also seen at regional level. The unemployment rate differed significantly among the Slovak NUTS 3 regions during the period between 2005 and 2012. According to previous studies high unemployment is caused by drop in economic performance or by some structural problems in the region. During economic growth the unemployment rate was decreasing and during economic downturn it was increasing. We used monthly seasonally adjusted data during the observed period between the years 2005 and 2012. In total, we had 96 observations. We also applied the Hodrick-Prescott filter for estimating the natural rate of unemployment. This method is often used for estimating the potential output and is possible to use in the case of unemployment. Our empirical results show that in most regions the real unemployment rate was lower than the natural rate of unemployment during the pre-crisis period. In other words, it means that the Slovak labour market was in positive unemployment gap. However, this gap was not the same in all regions.	Labour market institutions and bargaining structure	E
Sum V., Chorlian J., Lin J.-C.	The effect of the demand side's confidence on the supply side's confidence: The mediating role of financial stress	2013	Investment Management and Financial Innovations	This paper provides empirical evidence of how financial stress mediates the effect of the demand side's confidence on the supply side's confidence in the United States. Using monthly data from 1994:M2 to 2012:M5, the time-series regression analyses show that changes in the demand side's confidence positively and significantly predicts the supply's side confidence in the United States. The increased changes in the demand's side confidence forecasts lower financial stress. When changes in financial stress and demand side's confidence included in the regression to predict the changes in supply side's confidence, the demand side's confidence coefficient becomes statistically insignificant but the changes in financial stress coefficient is negative and statistically significant. The findings of this study imply that in a demand-driven economy, health of the financial sector plays a very important role in economic growth and prosperity because stressful financial sector puts downward pressures on businesses resulting in a higher unemployment rate in the economy due to workforce downsizing and freeze of new hire. © Vichet Sum, Jack Chorlian, Jung-Chu Lin, 2013.	Financial markets and Banking sector effects	E
Radionova I.F., Tkachenko N.O.	Analysis of externalities in education	2013	Actual Problems of Economics	The article provides the theoretical and statistical grounding for the hypothesis concerning the possibility of assessing the externalities in education by their influence on it. The indicators under study concerns the volume, organization, financing and compliance with the needs of national economy along with their effects on economic growth, the unemployment rate and income distribution.	Structure change, productivity growth, education and training	A+E
Kus B.	Financialisation and income inequality in OECD nations: 1995-2007	2012	Economic and Social Review	This paper attempts to examine the link between financialisation and income inequality in advanced countries from a comparative perspective using data from 20 OECD countries over a period of 13 years (1995-2007). The initial regression results show an overall strong correlation between several of the financialisation indicators and income inequality net of conventional explanations including economic growth rate, unemployment, globalisation, left party power, social spending, union density, female participation in the labour market, and wage bargaining centralisation. The results also show that although financialisation has a positive association with income inequality in nations with strong as well as weak unions, the association is stronger in the latter.	Inequality and income distribution	E
Zanin L., Marra G.	Rolling regression versus time-varying coefficient modelling: An empirical	2012	Bulletin of Economic Research	During the last decade, economists have shown that the inverse relationship between economic growth and unemployment rate varies over time. Rolling regression has been the main tool used to quantify such a relationship. This methodology suffers from several well-known problems which lead to spurious non-linear patterns in the Okun's coefficient behaviour over time. Here, we take a penalized regression spline approach to estimate the Okun's time-varying effects. As a result, spurious non-linearities are suppressed and hence important time-varying coefficient features revealed. Our empirical results show that the inverse relationship in some Euro area countries is spatially heterogeneous and time-varying. The findings are complemented by the calculation of the rate of output	Initial effects	F+E

	investigation of the Okun's law in some Euro area countries			growth needed for a stable unemployment rate, as proposed by Knotek. © 2011 The Authors. Bulletin of Economic Research © 2011 Blackwell Publishing Ltd and the Board of Trustees of the Bulletin of Economic Research.		
Caliendo M., Hogenacker J.	The German labor market after the Great Recession: successful reforms and future challenges	2012	IZA Journal of European Labor Studies	The reaction of the German labor market to the Great Recession 2008/09 was relatively mild – especially compared to other countries. The reason lies not only in the specific type of the recession – which was favorable for the German economy structure – but also in a series of labor market reforms initiated between 2002 and 2005 altering, inter alia, labor supply incentives. However, irrespective of the mild response to the Great Recession, there are a number of substantial future challenges the German labor market will soon have to face. Female labor supply still lies well below that of other countries and a massive demographic change over the next 50 years will have substantial effects on labor supply as well as the pension system. In addition, due to a skill-biased technological change over the next decades, firms will face problems of finding employees with adequate skills. The aim of this paper is threefold. First, we outline why the German labor market reacted in such a mild fashion, describe current economic trends of the labor market in light of general trends in the European Union, and reveal some of the main associated challenges. Thereafter, the paper analyzes recent reforms of the main institutional settings of the labor market which influence labor supply. Finally, based on the status quo of these institutional settings, the paper gives a brief overview of strategies to combat adequately the challenges in terms of labor supply and to ensure economic growth in the future. © 2012, Caliendo and Hogenacker; licensee Springer.	Labour market institutions and bargaining structure	A
Castells-Quintana D., Royuela V.	Unemployment and long-run economic growth: The role of income inequality and urbanisation [Desempleo y crecimiento económico a largo plazo: El papel de la desigualdad de ingresos y la urbanización]	2012	Investigaciones Regionales	Two of the most dramatic aspects of the current economic crisis are with no doubt the experience of high and persistent rates of unemployment and the accelerated pace at which inequalities increase. But high and persistent levels of unemployment and increasing inequality are more than a consequence of scarcer opportunities related to the crisis; they can also be negative determinants for subsequent long-run economic growth. In this work, we consider unemployment and income inequality, and interactions between both, as possible determinants of longrun growth by using cross-sectional international data. Our results suggest that: 1) while initial high unemployment rates do not seem to be statistically significant to explain long-run growth, they do have a negative and significant effect when interacting with increases in inequality. 2) When we differentiate based on levels of urbanization, increasing inequality harms growth in countries with high levels of urbanization, as well as in countries with low levels of urbanization in which there is high and persistent unemployment. © Investigaciones Regionales.	Inequality and income distribution	E
Martín M.G., Ribeiro D., Picazo M.T.M.	Innovation and economic growth: Factors that encourages innovation [Innovación y crecimiento económico:	2012	Cuadernos de Gestion	The goal of this paper is to analyze the role played by innovations on economic activity. In this sense, the relationship between innovation and economic growth is studied, being economic growth the current main objective of economic policy to reduce unemployment and to increase social welfare. To carry out this analysis we base on Schumpeter's model, playing entrepreneurship and social climate an important role in the process. The empirical analysis an innovations equation for the case of 11 developed countries is included, showing that the social climate, represented by the training and income distribution, and monetary policy, represented by money supply, stimulate innovations.	Structure change, productivity growth, education and training	F+E

	Factores que estimulan la innovación]					
Mahadea D.	Prospects of entrepreneurs hip to the challenge of job creation in South Africa	2012	Journal of Developmental Entrepreneurship	Entrepreneurship is critical to job creation and economic growth. Unemployment in South Africa is presently at about 25 percent. The formal sector is unable to provide adequate employment opportunities for labor although the country registered positive economic growth rates over the past 17 years since the demise of apartheid. Some people manage to obtain employment in the informal sector. However, this sector also has been shedding labor recently. Although the government has responded with many initiatives to deal with employment creation, unemployment rates, especially among the youth, remain a formidable challenge. Entrepreneurship, through the creation of new ventures and expansion of business firms, can make a difference to absorb more people in the labor market. However, this depends on the level of entrepreneurial capacity and environment of the South African economy. This paper examines the problem of low employment economic growth performance over the post-apartheid period. By drawing on the Harrod-Domar model as a heuristic guide, and using regression analysis, the paper highlights the probable links between changes in economic growth and in employment. The results indicate the marginal employment growth effect is positive, the growth elasticity of employment is low over the 1994-2010 period and investment in relation to the country's desired growth in GDP is also found to be low. The paper identifies some constraints to employment creation against the entrepreneurial environmental conditions in South Africa and then examines how entrepreneurship can make a difference to employment creation. © World Scientific Publishing Company.	Entrepreneurial activity effects	A+E
Schneider U., Wagner M.	Catching growth determinants with the adaptive Lasso	2012	German Economic Review	This paper uses the adaptive Lasso estimator to determine variables important for economic growth. The adaptive Lasso estimator is a computationally very efficient procedure that simultaneously performs model selection and parameter estimation. The computational cost of this method is negligibly small compared with standard approaches in the growth regressions literature. We apply this method for a regional dataset for the European Union covering the 255 NUTS2 regions in the 27 member states over the period 1995-2005. The results suggest that initial GDP per capita (with an implied convergence speed of about 1.5% per annum), human capital (proxied by the shares of highly and medium educated in the working age population), structural labor market characteristics (the initial unemployment rate and the initial activity rate of the low educated) as well as being a capital region are important for economic growth. © 2011 The Authors. German Economic Review © 2011 Verein für Socialpolitik.	Labour market institutions and bargaining structure	E
Dragos C., Dragos S.L.	Econometric estimations of the services and financial sector impact on economic growth variations in times of crisis	2012	Amfiteatru Economic	The world economy has been recently upside-down by the Global Financial Crisis. However, the effects have been extremely different from one country to another and from one economic sector to another. Starting from the economic assumptions formulated in the field's literature, the article analyzes the hypotheses of the disadvantageous influences of the services and financial sector upon the volatility of the economic growth rate and the unemployment rate in times of crisis. Econometric estimations using cross-sectional OLS Robust (White) Regressions on a sample of worldwide data taken from the World Bank confirm the theoretical hypotheses. The consequences of the highlighted mechanisms can be significant through the repositioning of the role of the different economic sectors.	Financial markets and Banking sector effects	A+E

Fields G.S.	Challenges and policy lessons for the growth-employment-poverty nexus in developing countries	2012	IZA Journal of Labor Policy	Of the world's 6.7 billion people (as of 2008), 1.3 billion lived on less than $1.25 Purchasing Power Parity dollars per person per day and another 1.7 billion lived on between $1.25 and $2.50 PPP dollars (Chen and Ravallion, 2012). The scourge of absolute economic misery among billions of the world's people is one of the most serious problems facing humankind today. Unemployment (defined below) befalls about 200 million of the world's people - a sizeable number but small compared to the three billion people who are poor using the $2.50 PPP dollar poverty line. A much larger number - 900 million - are employed but earning so little that they and their families are unable to reach even $2 per person per day (ILO, 2012). They are working hard and they are working poor. (Working Hard, Working Poor is the title of my latest book (Fields, 2012). To achieve more and better employment (where "better" depends on such factors as rate of pay, job security, employment protections, and type of work), analysts and donors need to understand better how employment, growth, poverty and other factors interact, how unemployment is caused, and how employment can be improved. At the same time, drawing on practical experience, research can identify knowledge gaps that to date pose limits to successful employment creation policy. © 2012, Fields; licensee Springer.	Policy maker effects	E
Clemente J., Marcuello C., Montañes A.	Government social spending and GDP: Has there been a change in social policy?	2012	Applied Economics	Government Social Spending (GSS) is made up of a very heterogeneous range of variables, monetary transfers for retirement or illness, unemployment benefits, family services, active labour market policies and health expenditure. We believe that each of these components is of enormous importance to the economic development of a country. As has often been affirmed, however, GSS is one of the economic aggregates most sensitive to the ups and downs of economic growth. In moments of crisis, sharp cuts are almost immediate, and these may or may not be recovered when times are good. In this article, we examine the sensitivity of GSS to the evolution of Gross Domestic Product (GDP) in order to reveal the relationship between the two. © 2012 Taylor & Francis.	Policy maker effects	E
Loría E., Libreros C., Salas E.	Okun's law in Mexico: A gender approach, 2000.2-2011.1 [La ley de Okun en México: Una mirada de género, 2000.2-2011.1]	2012	Investigacion Economica	By estimating the first difference Okun's model for the Mexican economy (2000.2-2011.1), we empirically found a difference in the product rate of growth arising from unemployment of women and men. This outcome suggests the existence of different productivities by gender. We estimated an unrestricted vector autoregressive model (UVAR) with generalized impulses, supported by a linear regression. By so doing we found that economic growth immediately reduces men's unemployment, while women's unemployment reacts more slowly. We did not find crowding-out effects of unemployment by gender, which suggests the existence of complementarities in the Mexican labor market.	Initial effects	E
Valentine T.	International Influences on the Australian Economy in the Interwar Years	2012	Economic Analysis and Policy	This paper examines the role of global factors in the Australian economy in the interwar years. In particular, it evaluates the impact of export prices on the Australian rate of inflation, the rate of growth of the economy and the unemployment rate. In the first analysis inflation is decomposed into two sources-one due to the growth of wages and the other due to the growth of non-wage income. The latter depends strongly on the growth in export prices. A macroeconometric model shows that export prices affected economic growth and the unemployment rate which was also negatively related to wages and the tariff rate. The increase in the latter was a poor policy option. It also appears that the Depression was imported into Australia via the fall in export prices rather than the drop in share prices. © 2012 Economic Society of Australia (Queensland) Inc.	Other effects	F+E
Grosso J.-L., Smith T.L.	Poverty and unemployment: A cultural approach	2012	Thunderbird International Business Review	For years, policymakers, business leaders, human resources professionals, and economists have attempted to explain the existence of unemployment. Unemployment inhibits the economic growth of a nation and contributes to the problem of ongoing poverty, which cannot be lessened without that growth. Understanding the causes of unemployment and developing policies and programs to decrease it are vitally important for nations around the world, but one key variable in the study of unemployment has been overlooked. That variable is culture. This	Other effects	A+E

				article will show that culture can significantly explain cross-national differences in unemployment rates and offers a link to understanding the global problem of poverty that plagues nations today. © 2012 Wiley Periodicals, Inc.		
Karanassou M., Sala H.	Productivity growth and the phillips curve: A reassessment of the us experience	2012	Bulletin of Economic Research	In this paper, we analyse a new Phillips curve (NPC) model and demonstrate that (i) frictional growth, i.e., the interplay of wage staggering and money growth, generates a non-vertical NPC in the long run and (ii) the Phillips curve (PC) shifts with productivity growth. On this basis we estimate a dynamic system of macro-labour equations to evaluate the slope of the PC and explain the evolution of inflation and unemployment in the USA from 1970 to 2006. Because our empirical methodology relies heavily on impulse response functions, it represents a synthesis of the traditional structural modelling and (structural) vector autoregressions. We find that the PC is downward-sloping with a slope of -3.58 in the long run. Furthermore, during the stagflating 1970s, the productivity slowdown contributed substantially to the increases in both unemployment and inflation, whereas the monetary expansion was quite ineffective and led mainly to higher inflation. Finally, the monetary expansion and productivity speedup of the roaring 1990s were both responsible for the significant lowering of the unemployment rate. © 2010 The Authors. Bulletin of Economic Research © 2010 Blackwell Publishing Ltd and the Board of Trustees of the Bulletin of Economic Research.	Structure change, productivity growth, education and training	E
Inyang B., Simon E.D.	Unemployment and persistent poverty in the niger delta region of Nigeria: A constraint to sustainable development in the 21st Century Nigeria	2012	Mediterranean Journal of Social Sciences	This paper examines the phenomenon of unemployment and persistent poverty in Nigeria with special reference to the Niger Delta region. Having diagnosed the episode of unemployment and poverty in the region, the paper unfolds that unemployment and poverty have devastating effect on individuals, society and economy at large. This paper identifies that one of the core causes of poverty in the Niger Delta today is the inability of many job seekers to secure gainful employment. It also reveals the increasing level of poverty which has conditioned many people to a very low and undignified standard of living in the region. The paper identifies unemployment and poverty as impacting negatively on the lives of the people and sustainable development programmes in the region. Economic growth, which is supposed to be a solution to the problem of unemployment and poverty, appears not to be in this region. In view of this, the paper recommends that the government and all stake-holders must work together to get over the hurdles of unemployment and poverty and create more poverty alleviation programmes in order to promote maximum investment and employment opportunity to the rural dwellers for sustainable development at the rural setting.	Policy maker effects	A
Cebula R.J.	Contemporary Economics and Policy Issues in the U.S.	2012	International Advances in Economic Research	This paper outlines a variety of contemporary policy issues facing the U. S. economy. These issues include impediments to sustained economic growth and reduced unemployment, such as tax uncertainty and ill-conceived federal income tax policies. In addition, it provides an overview of four studies that deal with such topics as budget deficits and reduced economic freedoms, the implications of raising property taxes as a source of funds for revenue-starved local governments, the regional impacts of the world-wide recession for a specific locality in the U. S., namely, Hampton Roads, Virginia, and the relationship between yield curve inversion and the incidence of recession. © 2012 International Atlantic Economic Society.	Policy maker effects	A
Himanshu	Employment trends in India: A re-examination	2011	Economic and Political Weekly	This paper re-examines the trends in employment and unemployment as thrown up by successive National Sample Surveys from the mid-1970s. The analysis suggests that the euphoria about high employment growth during 1999-2004 was not justified nor does the concern about jobless growth in the subsequent years capture the changes in employment structure. A long-term analysis of employment trends reveals that changes in the employment pattern and workforce structure have been sluggish and do not conform to the standard employment-output relationship. The analysis also flags certain issues which have a bearing on the comparability of employment data before and after 1993-94. Large fluctuations seen after 1993-94 appear to be a result of the movement in and out of labourforce of a substantial section of the population which is vulnerable and in the informal sector in a phase of	Labour market institutions and bargaining structure	A

				rising overall rates of economic growth. The paper concludes with a brief discussion of the results of the recently released 2009-10 survey.		
Herwartz H., Niebuhr A.	Growth, unemployment and labour market institutions: Evidence from a cross-section of EU regions	2011	Applied Economics	The responsiveness of unemployment to growth is an issue of ongoing political and academic interest. Economic growth is supposed to be the key to increase labour demand and reduce unemployment. Departing from Okun's law, most research on the unemployment intensity of growth has focused on national disparities and the role of labour market institutions. Empirical evidence at the regional level is scarce. We investigate differences in regional labour market responsiveness and their potential determinants for a cross section of European regions. The data set covers the NUTS 2 regions in the EU15 for the period 1980 to 2002. Following a spatial modelling approach interaction among neighbouring labour markets is taken into account. Our findings point to substantial differences in labour market effects of output growth among European countries and regions. Both national labour market institutions and regional characteristics, such as structural change explain a significant part of these disparities. © 2011 Taylor & Francis.	Initial effects	F+E
Sasaki H.	Conflict, growth, distribution, and employment: A long-run Kaleckian model	2011	International Review of Applied Economics	This paper presents a Kaleckian growth model in which (i) the rate of capacity utilization, the profit share, and the rate of employment are adjusted in the medium run, and (ii) the normal rate of capacity utilization and the expected rate of capital accumulation are adjusted in the long run. The long-run equilibrium is a continuum of equilibria and is characterized by hysteresis in that the long-run position of the economy depends on where it starts. An increase in the bargaining power of workers lowers the rate of unemployment in both the medium-run and the long-run equilibrium. © 2011 Taylor & Francis.	Inequality and income distribution	F
Patnaik P.	Economic growth and employment	2011	Economic and Political Weekly	The fact that an economy, even when it experiences a higher growth rate in the capitalist segment, is saddled with an increasing unemployment rate, goes against the grain of conventional growth theory as indeed of the basic presumption underlying policymaking. In India, for instance, faced with growing misery in the midst of accelerating growth, the standard response has been that such "exclusion" will disappear if the growth rate can be further accelerated. The proposition that an acceleration of the growth rate in the capitalist segment will be accompanied by an increase in unemployment in the economy as a whole, which is the basic element underlying poverty (as Marx had recognised), cuts at the foundation of all such claims.	Structure change, productivity growth, education and training	A
Fanti L., Gori L.	On economic growth and minimum wages	2011	Journal of Economics/ Zeitschrift fur Nationalokonomie	We offer an analysis of the existence of a positive relationship between minimum wages and economic growth in a simple one-sector overlapping generations economy à la Romer (J Polit Econ 94:1002-1037, 1986), in the case of both homogeneous and heterogeneous labour and without considering any growth-sustaining externalities which the minimum wage can generate. Assuming also the existence of unemployment benefits financed with balanced-budget consumption taxes not conditional upon age, we show that the minimum wage can promote economic growth and welfare despite the occurrence of unemployment. There may also exist a growth- and welfare-maximising minimum wage. © Springer-Verlag 2011.	Policy maker effects	F
Fanti L., Gori L.	A note on trade unions, unemployment insurance, and endogenous growth	2011	Eastern Economic Journal	One of the most important economic problems in Europe today is the apparently permanent high rate of unemployment associated with unionized labor markets. The effects of unionization on economic growth are recognized by the most part of the growth theoretical literature framed in the standard overlapping generations model to be either negative or at most neutral, with some exceptions. Developing a model in line with this strand of literature, we show a rather unusual result: the unionization of the labor market in the conventional double Cobb-Douglas economy may always promote economic growth when unemployment benefits are financed by a	Labour market institutions and bargaining structure	F

				consumption tax rather than a wage tax, and the union's preference weight on raising wages is sufficiently low. © 2011 EEA.		
Roa M.J., Saura D., Vázquez F.J.	Economic growth, labor market and demographic patterns	2011	Structural Change and Economic Dynamics	This study addresses the dynamic interaction between income growth, patterns of demographic variables, and characteristics of the labor market. We attempt to provide an endogenous explanation for the origin and nature of long-run sustained oscillations in the population and in economic variables. First, we develop an economic growth model containing unemployment. The resulting dynamics reveal that the emergence of irregular sustained oscillations is related to the lack of sensitivity in wage growth to changes in the employment rate. Next, labor force growth is endogenized in the basic model through micro-founded fertility choices of individuals. By introducing the endogenous fertility rate into the basic model, we generate a demographic transition. Next, consistent with Malthusian cycle literature, the inevitable time lag between individual reproductive decisions and subsequent market needs, in conjunction with a highly specialized labor force, appear to be the primary source of such long-run oscillations. Finally, the model predicts that raising the age of entry into the labor force increases economic growth. © 2010 Elsevier B.V.	Other effects	F
Reinhard L.F.M., Li S.	The influence of taxes on corporate financing and investment decisions against the background of the German tax reforms	2011	European Journal of Finance	This paper analyses the influence of taxes and the 2000 tax reform-induced tax changes on the financing and investment decisions of a sample of German listed companies over the years from 1996 to 2005. In contrast to the perception of the German government, our results do not support the notion that companies deliberately adjust their financial structures in order to reduce their corporate tax payments. Moreover, this study finds that market opportunities and market pressures have a far larger influence on investment decisions than on tax considerations. In this context, no evidence is found for the notion that tax cuts result in a higher investment activity that might stimulate economic growth and reduce the high unemployment rate in Germany. Against the background of these findings, it seems thus doubtful whether the recent tax reform will be able to reach its objectives. © 2011 Taylor & Francis.	Policy maker effects	A+E
Mielcová E.	Economic growth and unemployment rate of the transition country-the case of the czech republic 1996-2009	2011	E a M: Ekonomie a Management	The main aim of this paper is to compare estimations and results for Okun's law relation coefficients of the Czech economy 1996-2009 with coefficients for economies of the US and France. These countries were chosen to compare the most discussed US economy with the France as a representative of the western-European type of economy and the Czech Republic as a representative economy of a transition country. The analysis is based on two principles - the difference version and the dynamic version of the Okun's law. Estimations of difference version of Okun's law coefficients show the persistence of the basic rule - the GDP growth causes the unemployment rate decrease. The estimation results express that the 1 percentage point decrease in the unemployment rate is bound with 10.1% increase of the real GDP. These numbers are different for France and the USA; the 1 percentage point decrease in the unemployment rate is bound with 2.7% increase of the real GDP in France and with 1.8% increase of the real GDP in the USA for the same time period. The output growth rate under a condition of the stable unemployment rate for the case of the Czech Republic is 2.4 %, while in France and in the USA is much smaller. The time changes in coefficients reveal the decreasing trend of the Czech GDP growth rate under a condition of the stable unemployment rate. The ratio of the GDP-change to the unemployment rate change has increased during the studied period. Estimations of dynamic version of Okun's law have shown the same tendencies in the Czech Republic as in other two countries.	Initial effects	E

Usui N.	Transforming the Philippine economy: "Walking on two legs"	2011	ADB Economics Working Paper Series	With a strong recovery from the global crisis, the Philippines' policy focus will shift again to a long-term development agenda. Despite favorable initial conditions, the Philippines' long-term growth performance has been disappointing. Over the decades, the economy has suffered from high unemployment, slow poverty reduction, and stagnant investment. Why could the Philippines not enjoy high growth as its neighbors? What are the main causes of its chronic problems of unemployment, poverty, and underinvestment? This paper argues that the Philippines' poor growth performance is to be attributed to low productivity growth due to slow industrialization, especially in manufacturing. The chronic problems of high unemployment, slow poverty reduction, and low investment are reflections of slow industrialization. Initial success in electronics had enabled the economy to accumulate capabilities for productive diversification. However, incentives to utilize the accumulated capabilities have been weakened by persistent underprovision of basic infrastructure and weak business and investment climate. The paper also analyzes the growing services sector, in particular the booming business process outsourcing industry, in terms of its impact on job creation. The key conclusion is that, instead of "leapfrogging" over industrialization, the Philippines needs to "walk on two legs", to develop both industry and services, to generate job opportunities for the growing working-age population. © 2011 by Asian Development Bank March 2011.	Structure change, productivity growth, education and training	E
Dinu M., Marinas M.-C., Socol C., Socol A.-G.	Testing of the okun's law in Romania	2011	Economic Computation and Economic Cybernetics Studies and Research	The objective of this study is to estimate the Okun's coefficient, and to check the validity of Okun's law in Romania during the period 1999-2008. For this purpose, we used data series of the unemployment rate, calculated according to Eurostat methodology and industrial production index, used as a proxy for the change in real GDP. Firstly, we have presented theoretical arguments of the asymmetric relationship between unemployment and economic growth. Secondly, we tested the hypothesis of unemployment hysteresis in Romania. Finally, we estimated Okun's coefficient based on the ADL (autoregressive distributed lag) model, which we introduced two dummy variables to capture the impact of hysteresis in unemployment. The estimated value was - 0.26, a value greater than previous estimates for the period 1992-2004 (-0.17), but close to the coefficient estimated by Okun (-0.3).	Initial effects	A+E
Qineti A., Matejková E., Pietriková M., Serenčeš R., Tóth M., Dvořak M.	Looking for the evidence of socio-economic convergence within the European Union	2011	Agricultural Economics	The purpose of this paper is to analyze the evidence and impact of the EU integration between 1999 and 2009 on the EU regional economic growth and the socio-economic convergence. A regional convergence analysis is performed in order to examine if the EU overall aim of convergence is reached. The main growth- and convergence theories are used as the theoretical framework and form the study's hypothesis. The results show that an absolute β-convergence exists between the EU member states as well as regions. However, the σ-convergence is not confirmed, meaning that that the disparities between the regions are rather increasing than decreasing. Perhaps a possible reason why the σ-convergence does not occur at the EU level is that it is easier for smaller regions which are more similar to each other to converge than for larger regions which tend to be more dissimilar to each other. This reasoning is in line with the convergence theories which state that smaller regions within a country are more likely to converge towards each other in the absolute sense than countries. On the other hand, the EU countries and regions tend to convergence in the tasks like unemployment rate, showing that they are not successful in resolving this difficult task. One of the main reasons of the high unemployment in all EU member states is their structural problem in the respective economies, consequently reflected in the long-term unemployment. The EU countries tend to convergence in terms of inequality as well, showing that they are egalitarian in character.	Other effects	E
Seijas M.C.G.	Employment, population, industry and economic development in europe: A comparative analysis of	2011	Revista Galega de Economia	This comparative analysis of employment and economic development of Spain with Germany, France, Italy and Britain is addressed to analyze the causes that explain the lower levels of real income, wages and employment rates in Spain in comparison with those countries, and recommend economic policies that can be more favourable to reduce the high unemployment rate in Spain and advance real converxence towards the levels of economic and social development of more developed countries. In our view the attempt experienced in Spain in the pe-riod 2000-2007, to promote the development of construction and services without sufficient de-velopment of the industrial base, has resulted, among other imbalances, in a significant increase in foreign trade balance deficit and in external debt level difficult to sustain. We analyze the prospects for economic development and employment	Policy maker effects	A+E

	spain with Germany, France, Italy and Great Britain for 1960-2010 and perspectives for 2011-2020 [Emprego, poboación, industria e desenvolvem ento económico en europa: Análise comparativa de España, Alemaña, Francia, Italia e Gran Bretaña en 1960-2010 e perspectivas para 2011-2020]			in Spain for 2011-2020 defending a posi-tive development approach versus passive policies of adjustment. A certain degree of adjust-ment is necessary but will be insufficient if not accompanied by active development policies that take into account the positive impact of industry on growth and employment in construction and services sectors. We also analyze the evolution of employment and economic development of Spain and major European economies compared with the United States.		
Dosi G., Fagiolo G., Roventini A.	Schumpeter meeting Keynes: A policy-friendly model of endogenous growth and business cycles	2010	Journal of Economic Dynamics and Control	This paper studies an agent-based model that bridges Keynesian theories of demand-generation and Schumpeterian theories of technology-fueled economic growth. We employ the model to investigate the properties of macroeconomic dynamics and the impact of public polices on supply, demand and the "fundamentals" of the economy. We find profound complementarities between factors influencing aggregate demand and drivers of technological change that affect both "short-run" fluctuations and long-term growth patterns. From a normative point of view, simulations show a corresponding complementarity between "Keynesian" and "Schumpeterian" policies in sustaining long-run growth paths characterized by milder fluctuations and relatively lower unemployment levels. The matching or mismatching between innovative exploration of new technologies and the conditions of demand generation appear to suggest the presence of two distinct "regimes" of growth (or absence thereof) characterized by different short-run fluctuations and unemployment levels. © 2010 Elsevier B.V.	Policy maker effects	F
Cai F., Wang M.	Growth and structural changes in employment in transition China	2010	Journal of Comparative Economics	By clarifying officially published statistics on labor market and employment and combining them with micro survey data, this paper tries to depict the employment growth and structural changes in rural and urban China and to break the myths believed by domestic and international scholars such as "zero growth of employment" and "unchangeable rural surplus labor pool". The paper provides exact statistics about China's labor market that previous studies fail to do, explaining how labor market develops, employment in both rural and urban areas increases and its structure diversifies, urban unemployment alleviates and number of rural surplus laborers reduces, as a result of economic growth, reform and opening-up. By examining demographic transition process in China,	Structure change, productivity growth, education and training	A+E

				the paper also predicts the emerging trend of labor shortage, suggests a coming Lewisian turning point and reveals its policy implications to China's sustainable growth. © 2009 Association for Comparative Economic Studies.		
Lanzafame M.	The endogeneity of the natural rate of growth in the regions of Italy	2010	International Review of Applied Economics	Following León-Ledesma and Thirlwall (2002a), this paper examines the hypothesis that the natural rate of growth of the Italian regions is endogenous to and positively affected by the actual growth rate. Relying on fixed-effects and SUR estimation techniques and using annual data for the 20 Italian regions over the period 1977-2003, we find strong support for the endogeneity hypothesis suggesting that faster actual growth raises the natural rate of growth of the average Italian region by about 3-3.7 percentage points. Furthermore, in line with recent findings in the literature, our analysis provides evidence of asymmetries in Okun's Law. In particular, the asymmetric Okun coefficient in the high-growth regime turns out to be positive in several cases, implying the unemployment rate may become pro-cyclical when actual growth rises above a certain threshold rate. © 2010 Taylor & Francis.	Initial effects	E
Sasaki H.	Endogenous technological change, income distribution, and unemployment with inter-class conflict	2010	Structural Change and Economic Dynamics	This paper presents a Kaleckian growth model that incorporates endogenous technological change. The model endogenously determines the rate of capacity utilization, the rate of economic growth, income distribution, and the employment rate in addition to technological change. The paper shows that whether or not an increase in the relative bargaining power of workers raises the long-run equilibrium unemployment rate depends on which regime is realized in the long-run equilibrium. If, for example, the long-run equilibrium corresponds to the wage-led growth regime, a rise in the relative bargaining power of workers leads to a decline in the unemployment rate. This result is never obtained from the mainstream NAIRU model. © 2009 Elsevier B.V.	Inequality and income distribution	F
Ono T.	Growth and unemployment in an OLG economy with public pensions	2010	Journal of Population Economics	This paper develops an overlapping generations model including (1) a productive externality as an engine of endogenous growth and (2) wage setting by trade unions as the cause of unemployment. Within this framework, the paper considers growth and unemployment affected by public pensions under the following two types of pension system: the proportionate pension system where only the contributors, that is, the employed, receive pensions, and the lump-sum pension system where both the employed and the unemployed receive pensions. It is shown that public pensions create a trade-off between growth and employment in the former system, whereas they produce no trade-off in the latter. © Springer-Verlag 2008.	Policy maker effects	F
Siddiqui S.H., Saleem H.M.N.	Services-led industrial policy for inclusive growth and competitiveness	2010	Competitiveness Review	Purpose - The purpose of this paper is to extend the theory of services-led industrial policy in services dominated but industrially lagging developing Asian economies and discuss its implications for employment, competitiveness, and diversification. Design/methodology/approach - An inductive approach using qualitative methodology is adopted reviewing the available literature and evidence from Pakistan. The critical synthesis of the history of economic growth and industrial policy has followed Kuhn's paradigm approach. Findings - Focusing on Pakistan, the paper synthesizes the history of industrial policy to identify the major paradigm shifts, especially the structural reforms era of the 1990s. The evidence suggests that the reforms under the structural adjustment program (SAP) have proved to be the necessary but not sufficient conditions for inclusive growth and industrial competitiveness in services dominated economies. Services-led growth without an integrated and competitive industrial sector can lead to severe external accounts deficits and unemployment. The traditional role of services as "driver of demand/growth" is extended as "driver of productivity/competitiveness" through forward linkages with other sectors of the economy. The services sector's enabling role as the "software" of the economy and its impact on total factor productivity growth, diversification, and inclusive growth is postulated. Research limitations/implications - Aquantification of forward and backward linkages is needed to identify the potential of services sub-sectors in driving growth and productivity, respectively. Originality/value - The paper identifies the need to match the existing industrial policy regimes with the economic structures in services-dominated developing	Policy maker effects	A+E

Author	Title	Year	Journal	Abstract		
				economies. The role of forward linkages in the productivity growth has implications for measurement of services output in national accounts in order to fully capture the contribution of this sector. © Emerald Group Publishing Limited.		
Kitaura K.	Fiscal policy and economic growth in the imperfect labor market	2010	Metroeconomica	Using a simple overlapping generations model with the growth engine of public capital by incorporating the union wage setting, we examine the effects of fiscal policies on unemployment, economic growth and welfare in the imperfect labor market. We demonstrate that the growth-maximizing tax in the imperfect labor market is larger than that of the perfect labor market. However, as the allocation ratio of public capital increases, the growth-maximizing tax in the imperfect labor market approaches that of the perfect labor market, thus reducing the unemployment rate. The policy implications of the intergenerational welfare aspects are also mentioned. © 2010 Blackwell Publishing Ltd.	Policy maker effects	F
Haruyama T., Leith C.	Unemployment and the productivity slowdown: An effciency wage perspective	2010	Japanese Economic Review	Many OECD economies suffered a productivity slowdown beginning in the early 1970s. However, the increase in unemployment that followed this slowdown was more pronounced in European economies relative to the USA. In this paper we present an efficiency wage model, which enables us to identify two basic channels through which the productivity slowdown can affect workers' effort incentives. Predictions of the model are consistent with the different trends in unemployment across countries over this period in the face of a similar slowdown in productivity. We also demonstrate how the link between growth and unemployment depends upon labour market institutions in such a way that we can reconcile the mixed empirical results observed in the literature. © 2009 Japanese Economic Association.	Labour market institutions and bargaining structure	F
Schuppert C., Kunze L.	Financing social security by taxing capital income: A bad idea?	2010	FinanzArchiv	This paper examines the growth effects of an increase of capital income taxes if the additional revenue is devoted to cutting wage-related social security contributions to reduce unemployment. The analysis is carried out in an overlapping-generations model with endogenous growth, unemployment, and a social security system comprising pensions and unemployment benefits. It is shown that the reform not only promotes employment but may additionally stimulate economic growth. Calibrating the model to match data for the EU-15 reveals that European countries can indeed gain higher employment and growth if the initial capital income tax is not too high. © 2010 Mohr Siebeck.	Policy maker effects	F+E
Gagnon J.E.	Currency crashes in industrial countries: What determines good and bad outcomes?	2010	International Finance	Sharp exchange rate depreciations, or currency crashes, are associated with poor economic outcomes in industrial countries only when they are caused by inflationary macroeconomic policies. Moreover, the poor outcomes are attributable to inflationary policies in general and not the currency crashes in particular. On the other hand, crashes caused by rising unemployment or external deficits have always been followed by solid economic growth, rising asset prices and stable or falling inflation rates. © 2010 Blackwell Publishing Ltd.	Policy maker effects	E

André F.J., Cardenete M.A., Romero C.	Designing efficient policies in terms of economic and environmental objectives	2010	Lecture Notes in Economics and Mathematical Systems	The aim of this chapter is to determine efficient policies in terms of economic and environmental objectives. Efficiency is a particularly desirable property for policies when taking into account environmental concerns, since, on the one hand, any environmental policy will be better accepted if it does not imply big economic costs and, on the other hand, economic targets should be pursued with the minimum environmental impact. First, we present a two-objective problem, assuming that the government is only concerned about increasing economic growth and reducing CO_2 emissions. We conclude, as expected, that tougher environmental goals monotonically entail higher environmental tax rates. Indeed, if we want to cut down emissions by more than 1%, the model recommends setting the tax rate at its highest feasible value. Afterwards, we design a more complex and more realistic exercise by including additional economic objectives such as unemployment, public deficit and fiscal pressure. We find that there are some trade-offs across objectives which are by no means straightforward or even monotonic. The conclusion is that economic growth on its own cannot be considered as a sufficient indicator of all economic policy concerns, and a more accurate analysis requires explicitly including all key indicators. © 2010 Springer-Verlag Berlin Heidelberg.	Policy maker effects	F
Papaioannou G.	Can the stability and growth pact criteria lead to sustainable growth?	2010	International Research Journal of Finance and Economics	The paper investigates the effects of the Maastricht criteria and the Stability and Growth Pact criteria on economic growth and employment in the world's largest economies. It demonstrates that countries that fulfill these criteria are associated with a reduction in unemployment in the long run. Although the most significant factor for the rise in employment is the country's GDP growth, the inclusion of variables relating to the Stability Pact criteria, adds to the predictive power of the model. The results also provide an indication that countries that fulfill these criteria are associated with stronger GDP growth in the long run in contrast to countries that fail to follow these criteria. However, the results indicate, that, in general the contribution of these criteria is rather incremental, questioning probably their usefulness in difficult times. These findings remain interesting for policy makers. © EuroJournals Publishing, Inc 2010.	Policy maker effects	F+E
Fanti L., Gori L.	Economic growth and welfare in a neoclassical overlapping generations growth model with minimum wages and consumption taxes	2010	Labour	We examine the effects of minimum wages on both the long-run per worker GDP and welfare in the textbook Diamond style overlapping generations economy. In addition, we assume the existence of unemployment benefits financed at a balanced budget with consumption taxes. Under suitable conditions, it is shown that a regulated-wage economy with unemployment performs better than a competitive-wage economy with full employment in the long run. Moreover, a welfare-maximizing minimum wage exists. Our findings may have interesting policy implications. © 2010 CEIS, Fondazione Giacomo Brodolini and Blackwell Publishing Ltd.	Policy maker effects	F
Feng Y.	National agenda, politics, and macroeconomic performance: An empirical study of growth, inflation, and employment in China	2010	Journal of Chinese Economic and Foreign Trade Studies	Purpose – The purpose of this paper is to explore the relationship between China's macroeconomic performance and cyclic political events. Design/methodology/approach – The research is hypothesis-derived and empirically driven. Findings – In China, economic growth has been largely consistent under different leaderships, and inflation and unemployment tend to be low during the year in which the Communist Party of China convenes its Congress. Research limitations/implications – Further multivariate, time-series analysis is expected. Practical implications – Periodic adjustments in monetary and fiscal policies will benefit sustainable economic growth and social stability. Originality/value – This is the first empirical work to explore a systematic relationship between cyclic political changes or events and macroeconomic performance in China. © Emerald Group Publishing Limited.	Policy maker effects	A+E

Tregenna F.	Characterising deindustrialisation: An analysis of changes in manufacturing employment and output internationally	2009	Cambridge Journal of Economics	Deindustrialisation is typically conceptualised as a decline in manufacturing as a share of total employment. From a Kaldorian perspective deindustrialisation could have negative implications for long-run growth, given the special growth-pulling properties of manufacturing. However, defining deindustrialisation purely in terms of employment share is conceptually limiting given that some of the Kaldorian processes operate primarily through output rather than employment, as well as blunting empirical analysis by not focussing enough on changes in manufacturing share of gross domestic product (GDP). This study develops a new method using decomposition techniques to analyse changes in manufacturing employment levels and shares in 48 countries over periods of 'deindustrialisation'. The analysis separates out changes in the levels and shares of employment manufacturing into components associated with changes in the share of manufacturing in GDP, the growth of manufacturing value-added, the labour intensity of manufacturing production and economic growth. The results indicate that in most cases the decline in manufacturing employment is associated primarily with falling labour intensity of manufacturing rather than an overall decline in the size or share of the manufacturing sector. We suggest that deindustrialisation should appropriately be defined in terms of a sustained decline in both the share of manufacturing in total employment and the share of manufacturing in GDP. © The Author 2008. Published by Oxford University Press on behalf of the Cambridge Political Economy Society. All rights reserved.	Structure change, productivity growth, education and training	F+E
Lolos S.E.G.	The effect of EU structural funds on regional growth: Assessing the evidence from Greece, 1990-2005	2009	Economic Change and Restructuring	This paper brings empirical evidence on the impact of EU structural policy on regional income growth. The case of Greece over the period 1990-2005 is taken as an example. This period is characterized by the acceleration of the European integration process, with a central role assigned to the EU structural support to less prosperous regions. Regional growth is approached through the estimation of β-convergence equations using panel methods of estimation. The empirical results reveal a positive impact of structural funds support on regional growth while income convergence is enhanced. In addition, a significant influence of spatial income and unemployment spillovers on regional income growth is evidenced, illustrating the recent growth performance in Greece. Our results leave ample room for European regional policy to operate for the promotion of growth and the reduction of regional disparities. © Springer Science+Business Media, LLC. 2009.	Policy maker effects	E
Hodge D.	Growth, employment and unemployment in South Africa	2009	South African Journal of Economics	The high rate of unemployment in South Africa stands out in an otherwise vastly improved set of macroeconomic fundamentals compared with the situation in the early 1990s. One might be tempted to argue that by this single indicator alone, the government's macroeconomic policies have been a failure. This paper explains why jumping to such a conclusion would be a mistake. Annual time series data on total formal sector employment is constructed dating back to 1946. The relationship between economic growth and formal sector employment is then measured and changes in the employment coefficient over time are described. The employment coefficient was found to be relatively stable, with a long-term average value of 0.5. It returned to this value after a short-lived collapse in the mid-1990s. It is concluded that the main reason for the persistently high and rising rates of unemployment in South Africa since the mid 1990s was the very large increase in the labour force and not a historically deficient growth or employment performance of the economy. Journal compilation © 2009 Economic Society of South Africa.	Labour market institutions and bargaining structure	E
Aktar I., Ozturk L.	Can unemployment be cured by economic growth and foreign direct investment in TURKEY?	2009	International Research Journal of Finance and Economics	This study applies the VAR technique of variance decomposition and impulse response function analysis to investigate various interrelationships among foreign direct investment (FDI), exports (EX), unemployment (UR) and gross domestic product (GDP) for the period 2000:1 to 2007:4 in Turkey. We find two cointegrating vectors in the system, indicating there is long run relationship. Our findings show that FDI did not have any contribution to reduce the unemployment rate in Turkey. Variations in EX have a positive impact on GDP but they are insignificant. Therefore, this study does not support the export led economic growth model. Variation in GDP does not reduce the unemployment rate either. © EuroJournals Publishing, Inc. 2009.	Policy maker effects	E
Soto R.	Dollarization, economic	2009	Economics Letters	Dollarization brought price stability and higher economic growth to Ecuador. Nevertheless, unemployment remained stubbornly high. Two opposing forces explain this result: sustained growth led to higher labor demand	Other effects	E

	growth, and employment			but price stabilization triggered substitution effects by cheaper intermediate goods and capital. © 2009 Elsevier B.V. All rights reserved.		
Michaelides P., Milios J.	TFP change, output gap and inflation in the Russian Federation (1994-2006)	2009	Journal of Economics and Business	The present paper estimates Total Factor Productivity (TFP) change for the Russian economy in the time period 1994-2006. It also calculates potential output and output gap using a Cobb-Douglas (CD) production function and a Hodrick-Prescott filter, as well as the Non-Accelerating Wage Rate of Unemployment (NAWRU), and the Non-Accelerating Inflation Rate of Capacity Utilization (NAICU) concepts. The results show that despite the severe economic crisis TFP has contributed to strong economic growth in the country after 1998, while the output gap, although negative between 1999 and 2003, has recently become positive. The relationship between output gap and inflation is examined and the results suggest that there is a strong (causal) relationship between output gap and inflation in the Russian economy. © 2008 Elsevier Inc. All rights reserved.	Structure change, productivity growth, education and training	E
Yussof I., Zakariya Z.	Economic growth and higher education demand in Malaysia [Pertumbuhan ekonomi dan keperluan pendidikan tinggi di Malaysia]	2009	Jurnal Ekonomi Malaysia	Previous studies show that higher education expansion is in tandem with national economic growth. However in the case of Malaysia's economy, graduate unemployment shows an increasing trend especially among those with first degree qualification but relatively lower among those with diplomas. This possibly reflects that the labour market requires relatively more diploma holders compared with the first degree graduates. This however is in contrast with current expansion of higher education in Malaysia which tends to produce more first degree graduates. To avoid wasteful investment of resources, it therefore crucial to determine which education programmes contribute to economic growth. Thus, this article aims at analysing higher education requirement in Malaysia using economic growth and higher education data for 1972-2004 period. With regards to higher education expansion in Malaysia, our OLS regression results show that only enrolment in diploma programmes has significant relationship with the national economic growth.	Structure change, productivity growth, education and training	A+E
Zagler M.	Economic growth, structural change, and search unemployment	2009	Journal of Economics/ Zeitschrift fur Nationalokonomie	Economic growth is driven by structural change. Structural change does not come without a cost. The most evident social cost of structural change is high and persistent unemployment. This paper develops a model with an endogenously expanding service sector, where the constant flow of workers in and out of employment leads to structural unemployment. The main finding is that the level of unemployment is different between the initial period and the long-run equilibrium growth path, and that along the transition path, the level of unemployment will overshoot its equilibrium level, which can explain the long-run pattern of unemployment in most industrialized countries. © 2008 Springer-Verlag.	Structure change, productivity growth, education and training	F
Pochmann M.	What Brazil learned from labour flexibilization in the 1990s	2009	International Labour Review	The debt crisis of 1981-83 changed the course that Brazil's social and labour policy had followed from the 1930s to the 1970s. The social and labour protection systems built up over those five decades - in conjunction with urbanization, industrialization and the rise of wage employment- were gradually dismantled. The neo-liberal policies adopted, however, failed to generate sufficient economic growth and brought worsening unemployment and job insecurity instead. Since the end of 2002, Brazil has been turning away from its "neo-liberal society" project. Copyright © The author 2009.	Labour market institutions and bargaining structure	A+E
Greiner A., Flaschel P.	Economic policy in a growth model with human capital, heterogenous agents and unemployment	2009	Computational Economics	In this paper we present an endogenous growth model with human capital, heterogenous agents and unemployment. Two types of households are considered. One household acquires human capital or skills through education while the other household remains low-skilled. Sustained growth is the result of human capital accumulation which is a function of the existing human capital employed in the educational sector and of public spending for teaching materials. Both households are affected by unemployment and, if so, receive unemployment benefits. The government levies an income tax and uses its revenues to pay unemployment benefits, to finance transfers to the low-skilled household and to finance human capital accumulation. The paper studies growth and welfare effects of economic policy and presents a stability analysis of the model. © Springer Science+Business Media, LLC. 2008.	Structure change, productivity growth, education and training	F

Down I.	Central bank independence, disinflations and monetary policy	2009	Business and Politics	Analyses of central bank independence (CBI) have generated two sets of apparently contradictory results - CBI appears to be both inversely related to inflation and positively related to the rise in unemployment and slowdown in economic growth during disinflations. I suggest that these results may issue from autonomous central banks being associated with sharper, more aggressive disinflations. To test the proposition I use two measures of policy stance, one of which contains more information concerning policymaker's expectations than has heretofore been the case. The results suggest a need to qualify yet further the optimality of CBI. © 2008 The Berkeley Electronic Press. All rights reserved.	Policy maker effects	F+E
Ayala L., Rodríguez M.	Explaining welfare recidivism: What role do unemployment and initial spells have?	2009	Journal of Population Economics	The question of high welfare re-entry rates has attracted great attention from economists and policymakers. Using a very rich administrative data set for the minimum income program of the Madrid Government (over 50,000 spells), this paper aims to broach various questions arising from the issue of welfare re-entry. We try to identify what factors determine observed differences in the durations of the first off-welfare spell. We analyze the combined effects of the length and type of exit of the first spell, unemployment, and sociodemographic characteristics. The experience of the first spell and, to a lesser extent, employability can contribute toward lengthening the time spent outside the program. Our results also show that off-welfare spells of households leaving the program in periods of low economic growth will be longer than those that do so during economic expansions. With the exception of unemployment effects, our estimates yield very similar results to those obtained in the U. S. studies, suggesting that U. S. welfare policies and analyses are not entirely irrelevant for European discussions of welfare policies. © Springer-Verlag 2009.	Policy maker effects	E
Tamai T.	Inequality, unemployment, and endogenous growth in a political economy with a minimum wage	2009	Journal of Economics/ Zeitschrift fur Nationalokonomie	This paper presents development of an endogenous growth model with heterogeneous households and political determination of the minimum wage. We investigate the interaction of inequality, unemployment, and economic growth. First, the arguments in this paper show that a positive correlation exists between inequality and unemployment, Second, the interaction between inequality and economic growth is shown to be a positive relation if high inequality pertains in a society. It is a negative relation if low inequality pertains. © 2009 Springer-Verlag.	Inequality and income distribution	F
Greiner A., Flaschel P.	Economic growth and the employer of last resort: A simple model of flexicurity capitalism	2009	Research in Economics	This paper presents a model of economic growth with unemployment due to labor market rigidities. The economy consists of a firm that maximizes profits, of a government and of two types of households that maximize inter-temporal utility. One household supplies skilled labor at the first labor market, the other household supplies simple labor at the second labor market. The government in the economy raises taxes and uses its revenues to employ labor receiving unemployment benefits, to finance transfers to the household in the second labor market and to finance public spending. We analyze both the version with exogenous growth as well as an endogenous growth variant, where growth is made endogenous by assuming positive externalities of capital. The exogenous growth model is characterized by global determinacy while it is locally indeterminate. The endogenous growth model can be globally indeterminate with the high balanced growth path being locally indeterminate and the low balanced growth path being locally determinate. We also study how taxation and how the speed of the wage adjustment affect the economy. © 2009 University of Venice.	Labour market institutions and bargaining structure	F
Gupta R., Du Toit C.B.	Active versus passive policies of unemployment: Growth and public	2009	South African Journal of Economic and Management Sciences	This paper develops a general equilibrium endogenous growth model in an overlapping generations framework, and compares, in terms of economic growth, a passive unemployment policy (unemployment insurance) with an active unemployment policy (government expenditures targeted towards improving the job-finding probability of an unemployed). Besides, the standard result of unemployment being growth reducing, under realistic parameterisation, we show that the government, under an active policy, can generate higher growth without any compromise on its own consumption, when compared to the unemployment benefit regime. The result, however, depends crucially on the efficiency with which the resources are spent in creating employment.	Policy maker effects	F

	finance perspectives					
Irmen A.	Frictional unemployment, labor market institutions, and endogenous economic growth	2009	Economics Bulletin	For a given set of labor market institutions, the rate of frictional unemployment depends on the evolution of the pool of job-seekers. Unemployment rises with the growth rate of labor supply that is proportionate to the rate of population growth. If economic growth is semi-endogenous, the steady-state growth rate depends positively on the rate of population growth. This suggests a trade-off between growth and unemployment: a faster growing economy has a higher unemployment rate. As a consequence, faster growth may not be desirable from a welfare point of view. We make this point in a parsimonious setting where semi-endogenous growth derives from the division of labor and the associated gains from specialization.	Labour market institutions and bargaining structure	F
Fanti L., Manfredi P.	Neoclassical production theory and growth with unemployment: The stability issue revisited	2009	Structural Change and Economic Dynamics	A common belief in economic growth theory is that the instability of the balanced growth path of models based on a non-neoclassical production theory, such as the Harrod-Domar or Goodwin-type models, may be removed by introducing neoclassical technology and substitutability between factors. This does not need to be true. As shown in this paper, Solow-type models with sluggishly adjusting, non-market-clearing, real wages and endogenous fertility may suffer instability. Not only: instability may be favoured by too strong a degree of neoclassical substitution in the economy. © 2008 Elsevier B.V. All rights reserved.	Structure change, productivity growth, education and training	F
Kónya L.	Immigration, economic growth and unemployment in Australia, 1972-2007	2009	Global Business and Economics Review	In spite of the fact that their ageing populations, low birth rates, and resentment to take low paid jobs make developed countries more and more reliant on guest workers and migrants, many people in the rich world are still unconvinced about the necessity and long-term benefits of immigration, partly because these benefits are difficult to measure and do not necessarily apply to everybody. In fact, the popular belief is that immigration fuels unemployment and slows down economic growth in per capita terms. The link between immigration, economic growth and unemployment is multifaceted and this paper focuses only on a slim slice of it. Namely, it aims at testing for Granger causality between immigration, economic growth and unemployment in Australia from 1972 to 2007 in a vector autoregression framework. Although this sample period is reasonable long compared to similar studies, it is relatively short by historical scale. Yet, its advantage is that apart from the first year it coincides with the current period of post 'White Australia' immigration policy. Copyright © 2009 Inderscience Enterprises Ltd.	Migration and Brain Drain	E
Fanti L., Gori L.	Are the regulation of wages and unemployment always detrimental for economic growth?	2009	Economia Politica	Although the debate about the effects of the regulation of wages is long lasting, little attention has been paid to the role played by minimum wages in inter-temporal contexts with endogenous fertility. This paper investigates such effects within a standard OLG model of neoclassical growth. Some new results, so far escaped closer scrutiny, emerge: introducing a regulated wage may, despite the unemployment occurrence, (i) have a favourable impact on both capital accumulation and output per capita; (ii) reduce the population growth rate. This occurs more likely when a sufficiently high capital share as well as significant unemployment benefits do coexist. Moreover we show that such results also hold even with exogenous fertility and lump-sum taxation on the elderly. Therefore, we conclude that under suitable conditions the Stigler s (1946) result that the regulation of wages always causes a production loss may be violated, that is, in a dynamical context a regulated-wage economy may perform better than a market-wage economy, and the higher is the unemployment rate the higher is the (neoclassical) economic growth. Furthermore, we argue that the minimum wage may also be treated as a policy parameter to control population growth.	Policy maker effects	F

Stockhammer E.	Effects of European integration on Austria's economy	2009	International Review of Applied Economics	High expectations were placed on the project of European economic integration and Austria's participation in it. Economists had expected that the Single Market would provide a positive supply shock, i.e. rising productivity, resulting in more growth. The optimistic forecasts for neither the EU nor for Austria were borne out by actual economic trends. Economic growth as well as productivity growth decelerated, while unemployment increased. Monetary union was implemented with an economic policy framework, the Stability and Growth Pact (SGP) that geared monetary policy only to price stability and at the same time prescribed restrictive fiscal policies. The SGP therefore reveals a deflationary bias. The existing literature on the effects of EU accession on the Austrian economy by design fails to account for the restrictive effects of the SGP. The paper presents simulation results allowing for supply shocks as well as demand shocks. The simulations are based on a medium-sized macroeconometric model. The results indicate that recent studies overestimate the positive effects of European integration. A simulation of the restrictive demand-side effects of the SGP, with the assumption that around half of the fall in public consumption growth in the Euro countries can be attributed to the SGP, produced significant negative growth effects. The net effect suggests a negative quarter percentage point p.a. during the period 1995-2004.	Policy maker effects	F
Lu M., Jiang S.	Labor market reform, income inequality and economic growth in China	2008	China and World Economy	The year 1996 was a turning point both in terms of Chinese labor market reform and in China's economic growth pattern. Before 1996, labor market reform was mainly implemented through adjustment of people's occupation and income structure. Since 1996, employment restructuring has led to differentiation in terms of employment status. Labor market reform in the former stage resulted in slow growth in wages, whereas reform in the latter stage enhanced economic efficiency. Both stages have enabled the Chinese economy to apply its comparative advantage of low labor cost. Labor market reform has also increased income disparity and, therefore, new challenges are posed in sustaining economic growth. China needs to adjust its development strategies and introduce labor market reform that can improve income equality, so as to achieve sustainable economic development. © 2008 Institute of World Economics and Politics, Chinese Academy of Social Sciences.	Policy maker effects	E
Sequeira T.N., Martins E.V.	Education public financing and economic growth: An endogenous growth model versus evidence	2008	Empirical Economics	Using an Endogenous Growth Model with physical and human capital and unemployment (Mauro and Carmeci in J Macroecon 25:123-137, 2003), we study the effects of subsidies to education in economic growth. According to the model, we conclude that government subsidies to education only enhance economic growth conditional on unemployment and that this relationship is negatively influenced by unemployment. We provide evidence from a broad panel data of countries that confirms the importance of unemployment in the relationship between subsidies to education and economic growth but dismiss its importance as a direct determinant of economic growth. © Springer-Verlag 2007.	Policy maker effects	F
Dimand R.W.	Edmund Phelps and modern macroeconomics	2008	Review of Political Economy	Edmund Phelps, winner of the 2006 Nobel Prize in Economics, has been a central figure in the development of macroeconomics since his 1961 article 'The Golden Rule of Accumulation' on optimal economic growth. His 1967-68 critique of the stability of the Phillips curve trade-off, together with Friedman (1968), led to the expectations-augmented Phillips curve and the natural rate hypothesis. His work on the choice-theoretic microeconomic foundations of wage, price, and employment dynamics under imperfect information, changed how economists do macroeconomics. Phelps subsequently developed natural rate models in a non-monetary, structuralist direction distinct from Friedman's monetarism and from New Classical economics, analyzing the natural rate of unemployment as a function of the real structure of the economy: real sectoral demands, factor supplies, technology, taxes, subsidies, tariffs, and real interest and exchange rates.	Policy maker effects	A

Lopez J.G., Cardim de Carvalho F.J.	Resuming growth in Latin America: Short and long term policies	2008	Revista de Economia Politica	The authors of this paper assert that the paralysis of the state generated by the crises of the 1970s and 1980s deprived the economies of the region of an important lever to resume and sustain growth. They thus maintain that to overcome stagnation it will be necessary to reconstruct the state's capacity to implement pro-growth policies. Following Keynes and Kalecki's ideas, but also classical development economists, the authors argue, first, that short-term macroeconomic policies, to reduce unemployment and to increase the degree of capacity utilization, should be used to promote the generation of profits to firms and to wake up entrepreneurs' animal spirits. Short-term expansionary policies should be coupled with measures to improve competitiveness and avoid balance of payments problems. They also claim that alternatives to the liberal programme will fail unless a pro-growth strategy is adopted which includes both short- and long-term policies. They thus propose that long-term policies must complete the package, signaling: a) sustained increases of effective demand in the future; and b) investment priorities to ensure that capacities will be created in strategic sectors and branches of the economy.	Policy maker effects	A
O'Brien M., Valadkhani A., Townsend K.	The Australian labour market in 2007	2008	Journal of Industrial Relations	Both global and domestic economic growth remained robust in 2007 resulting in historically low unemployment and high labour force participation in Australia. However, these favourable labour force statistics were overshadowed for much of the year by a number of other issues such as the continuing drought, high oil and petrol prices and associated inflation and interest rate pressures, a November federal election, and the first full year of the operation of the Work Choices legislation. This article will address each of these issues by presenting an analysis of the macroeconomy and labour market, and reviewing the labour market implications of the Work Choices legislation in Australia. © Industrial Relations Society of Australia.	Labour market institutions and bargaining structure	E
Roa M.J., Vazquez F.J., Saura D.	Unemployment and economic growth cycles	2008	Studies in Nonlinear Dynamics and Econometrics	The purpose of this paper is to study the dynamic interaction between economic growth and unemployment in a general model of economic growth. Labour market disequilibrium is introduced through a non-market real wage clearing modeled by a non linear Phillips Curve. We show that unemployment rate and per capita income dynamics fluctuate along cycles of different periods, and they may even have aperiodic paths. Labour market characteristics are the endogenous source of instability. In particular, as the rigidity of the labour market increases, the possibility of irregular behaviour increases as well. Besides cyclical behaviour, the dynamic analysis points to a positive income growth trend sustained by knowledge accumulation; however, there are periods where per capita income decreases. Moreover, in the same line as wage bargaining models (Layard and Nickell, 1985, 1986), we get the result that the higher workers' bargaining power, the lower both employment rate and per capita production. The paper aims to complement the literature in understanding the origin and nature of fluctuations in economic growth models. Copyright © 2008 The Berkeley Electronic Press. All rights reserved.	Labour market institutions and bargaining structure	F
Xu L., Bennington L.	Xiagang and re-employment policies in Shanghai	2008	Management Research News	Purpose- The purpose of this paper is to provide an overview of the job creation policies being used to address the high unemployment rate and number of xiagang in Shanghai. Design/methodology/approach: Using primarily Chinese language sources, the context of employment issues are discussed. This is followed by a brief analysis of each issue. Findings: Among the numerous setbacks caused by the ongoing reforms, xiagang and urban unemployment have become one of the most serious problems for the Chinese leadership. There are no panaceas on offer and just which combination of measures should be chosen is a matter for debate. Some combination of a less restrictive labour market, expansion of infrastructure investment and stimulation of re-employment involving public and private partnership in areas where the market is unlikely to generate spontaneously appears as a suitable way forward. Recruitment subsidies are not favoured as a solution while a focus retraining on smaller, well-targeted schemes for recognizable areas of skill shortages while simultaneously making counselling and job search advice more widely available is favoured. Finally, the Chinese government has recently shifted its development strategy from one of centring on economic growth to one aimed at the sustainable development of the society. Such a shift is appropriate and desirable for China as the move enables the nation to alleviate rather than aggravate the social problems arising from its high economic growth achieved during the past twenty years. Practical implications: While China defines unemployment differently to other countries and has the unique phenomenon of xiagang, this paper provides a platform for considering future policy development in the employment area. Originality/value: As much of the source material for this paper is only available in Chinese,	Policy maker effects	A

				the paper provides insights into one complex and challenging employment issue in the Chinese economy and presents opportunities for non-Chinese speaking scholars to the current debate. © Emerald Group Publishing Limited.		
Chusseau N., Hellier J.	Social policies and R&D subsidies: Impact on inequality, unemployment, growth and the tax burden	2008	International Journal of Manpower	Purpose - The paper seeks to analyse the impact of different public policies on inequality, unemployment, growth and the tax burden. Design/methodology/approach - A dynamic general equilibrium model is built, in which growth is driven by endogenous technical progress, to analyse the impacts of several policies (minimum wage, redistribution and R&D subsidies financed by an income tax). Findings - All policies except pure redistribution are better than non-intervention in terms of growth. The authors distinguish three major policy patterns. The Anglo-Saxon model is characterised by high growth, high inequality, low unemployment and a low tax burden. The Nordic model combines high growth, low inequality and low unemployment, and a high tax burden. The Continental European model puts together medium inequality and a medium tax burden, and higher long-term growth is paid for by high unemployment. Research limitations/implications - The model could be extended by the introduction of educational policy. Originality/value - The paper distinguishes three configurations that capture the main features of the developments in Anglo-Saxon countries, Scandinavian countries, and Continental European countries in the 1990s. It thereby provides a general framework to analyse and compare these experiences. © Emerald Group Publishing Limited.	Policy maker effects	F
Tsanov V.	Macroeconomic dependencies of the labor market: Bulgaria and the european union	2008	Ikonomicheski Izsledvania	The study examines the macroeconomic dependencies, which form the adapting opportunities of the Bulgarian labor market to external and domestic impacts. For evaluating the real opportunities for improving its functioning, a comparison with the dependencies in the developed EU countries (EU-15) is made. The study discusses three main macroeconomic dependencies of the labor market: the impact of the economic growth on the parameters of the labor market; the interaction between the inflation, work salaries and unemployment and evaluation of the degree of coordination between the demand and supply of labor. The study presents evaluations and conclusions concerning the similarities and differences in the mechanisms of impact and the opportunities for improvement. © Institute of Economics at Bulgarian Academy of Sciences, 2008.	Labour market institutions and bargaining structure	F+E
Kingdon G., Knight J.	Unemployment in South Africa, 1995-2003: Causes, problems and policies	2007	Journal of African Economies	This paper examines an issue of overwhelming importance in South Africa - unemployment and its rise. It explains the factors behind the sharp rise in unemployment in the post-apartheid period, investigates the role of labour legislation and the system of labour market governance, evaluates the impact of the government's active labour market policies, identifies the knowledge gaps about the functioning of the labour market and draws some policy prescriptions. It analyses unemployment using household surveys spanning 1995-2003 and explains the rise in unemployment by the slow growth of the economy, and thus slow growth in the demand for labour relative to the rapidly growing supply, together with labour market inflexibility. The paper argues that if unemployment is to be tackled, it is crucial to pursue a set of policies that promote South Africa's rate of economic growth to promote job-creation, and also that labour market regulations require reconsideration, giving greater weight to the concerns of employers and investors, and to the interests of the unemployed and informally employed poor who are beyond the reach of the labour institutions but can be hurt by them nevertheless. It highlights that lack of appropriate data hinders analysis of important aspects such as entry into, exit from and duration of unemployment. Finally, the	Policy maker effects	A

Michelacci C., Lopez-Salido D.	Technology shocks and job flows	2007	Review of Economic Studies	We consider a version of the Solow growth model where technological progress can be investment specific or investment neutral. The labour market is subject to search frictions, and the existing productive units may fail to adopt the most recent technological advances. Technological progress can lead to the destruction of technologically obsolete jobs and cause unemployment. We calibrate the model to replicate the high persistence that characterizes the dynamics of firms'neutral technology and the frequency of firms'capital adjustment. We find that neutral technological advances increase job destruction and job reallocation and reduce aggregate employment. Investment-specific technological advances reduce job destruction, have mild effects on job creation, and are expansionary. Hence, neutral technological progress prompts Schumpeterian creative destruction, while investment-specific technological progress operates essentially as in the standard neoclassical growth model. Using structural VAR models, we provide support to the key dynamic implications of the model. © 2007 The Review of Economic Studies Limited.	Initial effects	F+E
Chang J.-j., Shaw M.-f., Lai C.-c.	A "Managerial" trade union and economic growth	2007	European Economic Review	By setting up a simple Romer-type [Romer, P.M., 1989. Capital accumulation in the theory of long-run growth. In: Barro, R.J. (Ed.), Modern Business Cycle Theory. Harvard University Press, Cambridge, MA] endogenous growth model embodying a political trade union (rather than the traditional economic labor union), this paper explores the effects of unionization on unemployment, growth and welfare by highlighting the essence of internal conflict within the union. It is shown that the conflicting interests between the leadership and membership within the union play a decisive role in the unemployment, growth and welfare effects of unionization. Given the fact that taxation is another potential candidate besides unions in explaining the poor performance of a macro-economy, we re-examine the taxation effects within the growth model with equilibrium unemployment caused by the presence of the trade union and compare our findings with those for the traditional full-employment growth model. In general, we find that the taxation effects of income and consumption crucially depend not only on the institutional arrangements for taxing unemployment benefits, but also on the way the government budget is balanced. © 2006 Elsevier B.V. All rights reserved.	Labour market institutions and bargaining structure	F
Chang S.C.	The interactions among foreign direct investment, economic growth, degree of openness and unemployment in Taiwan	2007	Applied Economics	The vector autoregression method of variance decomposition and impulse response function analysis are applied to analyse various relationships among foreign direct investment (FDI), economic growth, unemployment and degree of openness in Taiwan. The analysis results show that these five variables have a long-run equilibrium relationship; however, unemployment rate and FDI outflow have weak exogeneity. We also found that there exist three unidirectional causalities from FDI outflow to FDI inflow, from economic growth to degree of openness, and from economic growth to unemployment in short-run. Furthermore, the shocks of economic growth and degree of openness have positive effects on FDI inflow. On the contrary, the shocks in economic growth and FDI inflow have negative effects on unemployment rate.	Policy maker effects	E

Kim Y.J.	A model of industrial hollowing-out of neighboring countries by the economic growth of China	2007	China Economic Review	Our model is a multi-sectoral version of Romer's variety expansion model that reveals the presense of industrial hollowing-out. The basic idea of the model is similar to that of Lucas [Lucas, Robert E., Jr. 1993, "Making a Miracle." Econometrica 61, p. 273-302.]. An increase in (external) social experience capital through learning by doing raises labor productivity. It also increases the social capacity to adopt more technology-intensive goods. The model provides the following implications: First, even though the economic growth of China raises the exports of low-level technology goods from neighboring countries to China in the short run, this can lower their future growth potential by lowering the accumulation of social experience capital. Second, without increasing social capacity to adopt more technology-intensive goods, those countries can experience industrial hollowing-out, lower equilibrium wage rates, and a higher unemployment rate. Third, as with conclusions garnered by standard geography models, both a huge market size and very low-level wages in China imply a continuation of discontinuous and lumpy loss of jobs and sectors. In this context, various policies to raise social capacity, besides retraining programs and unemployment safety nets, should be provided by the government to avoid industrial hollowing-out and to allocate labor efficiently. © 2006 Elsevier Inc. All rights reserved.	Structure change, productivity growth, education and training	F
Ono T.	Environmental tax reform, economic growth, and unemployment in an OLG economy	2007	FinanzArchiv	This paper develops an overlapping-generations model characterized by endogenous growth, unemployment, and pollution. The paper focuses on the replacement ratio, which measures the proportion of after-tax work earnings replaced by unemployment benefits, and considers a replacement-ratio-neutral reform in which the environmental tax is devoted to cutting the employees' rate of contribution to unemployment insurance. Under this reform, (i) the growth rate is increased, the unemployment rate is unchanged, and pollution is decreased; (ii) there is a trade-off of nonenvironmental utility between current and future generations; and (iii) when the reform is associated with an intergenerational transfer from the young to the old, the nonenvironmental utility of every generation can be improved. © 2007 Mohr Siebeck.	Policy maker effects	F
Das R.U.	Technological advances and industrial characteristics: Some evidence from developed and developing countries	2007	Economics Bulletin	The need of technological advances for competitiveness is rather well known. However, the structural impacts of technological improvements on unemployment remain largely unexplored in the existing literature. The paper analyses the complex interlinkages among technological adaptation, labour productivity gains and scale expansion. It highlights the two opposing effects of technological improvements and labour productivity on employment. The paper demonstrates the role of scale expansion both through the logic and empirical findings. It is argued that to achieve positive employment effects of technological modernization, via productivity gains and scale expansion, a greater degree of global trade and investment integration is needed. It also highlights the need for strengthening labour productivity and wage rate linkages to simultaneously address the supply and demand side effects of technology on economic growth. In nutshell, the paper argues for building on the new growth theories.	Structure change, productivity growth, education and training	E
Bhaduri A.	Endogenous economic growth: A new approach	2006	Cambridge Journal of Economics	This new approach incorporates on the demand side the problem of effective demand and unemployment, while rejecting on the supply side the oversimplistic use of a production function, with or without capital-labour substitution. The focus on the adoption and diffusion of labour productivity growth permits viewing supply as being driven endogenously by inter-class conflict over distribution as well as inter-class conflict among rival firms over market shares. The result is a race between growth rates in labour productivity and in the real wage rate, which drives demand and productivity growth on the one hand, while making wage share reasonably constant on the other. The existence and stability properties of the steady state are also examined. © The Author 2005. Published by Oxford University Press on behalf of the Cambridge Political Economy Society. All rights reserved.	Inequality and income distribution	F
Coen R.M., Hickman B.G.	An econometric model of potential output, productivity	2006	Journal of Macroeconomics	This paper specifies a macroeconometric model providing a simultaneous framework for estimating the natural rate of unemployment, the full-employment (FE) labor force and hours of work, the FE productivity growth rate, and the growth path of potential (FE) output during 1960-2000. The estimated output and unemployment gaps are consistent with Okun's Law. Historical perspective is provided on the expansion of the nineties by comparing it with those of the three previous decades in terms of growth and utilization of potential output. Factors	Initial effects	F+E

	growth, and resource utilization			accounting for the growth of potential output, productivity and labor supply are identified and compared. © 2006 Elsevier Inc. All rights reserved.		
Josten S.D.	Dynamic fiscal policies and unemployment in a simple endogenous growth model	2006	International Tax and Public Finance	This paper analyzes the growth and employment effects of dynamic fiscal policies in an overlapping generations model with endogenous growth and imperfect labour markets. With balanced-budget policies, the modelled closed economy grows at a constant rate which is higher, the lower are the labour tax rate and the unemployment rate. Constant-flow budget policies are not feasible, while government Ponzi games are feasible only if economic agents have implausibly high savings rates. Furthermore, while constant-stock fiscal policies are sustainable, an increase in the debt-to-capital ratio is accompanied by higher taxes, a rise in unemployment and lower economic growth. © Springer Science + Business Media, LLC 2006.	Policy maker effects	F
Irmen A., Wigger B.U.	National minimum wages, capital mobility, and global economic growth	2006	Economics Letters	The paper considers a two-country endogenous growth model with capital mobility and national minimum wages. It identifies conditions on the technology and national preferences that determine whether national minimum wages are a stimulus or an obstacle to economic growth. © 2005 Elsevier B.V. All rights reserved.	Policy maker effects	F
Michaelis J., Birk A.	Employment - and growth effects of tax reforms	2006	Economic Modelling	Since the mid-1990s almost all OECD countries have engaged in fundamental reforms of their tax systems. There is a trend towards higher social security contributions and lower tax rates on personal and corporate income. This paper explores whether these tax policy measures are effective means for reducing unemployment and accelerating economic growth. Using a Pissarides type search model with endogenous growth, we analyze how savings and the incentive to create new jobs are affected by revenue-neutral tax swaps between wage income taxes, payroll taxes, capital income taxes and taxes levied on capital costs. In our framework, cutting the capital income tax (reducing the double taxation of dividend income) financed by a higher payroll tax turns out to be superior, such a policy mix fosters both employment and growth. Most other tax reforms imply a trade-off between employment and growth. © 2006 Elsevier B.V. All rights reserved.	Policy maker effects	F
Chuang Y.-C.	The effect of minimum wage on youth employment and unemployment in Taiwan	2006	Hitotsubashi Journal of Economics	Using Taiwan's quarterly time series data from 1973 to 2004, this paper investigates the effect of minimum wage on youth employment and unemployment. The effect of minimum wage is examined under data from 30 industries and after controlling for demand-side and supply-side factors in the analysis, the estimation results show that a 10% jump in the minimum wage would increase the youth employment rate and the youth labor participation rate by 0.47 %, although no significant effect was found for the youth unemployment rate. Our results are consistent with (though the magnitude is small) the findings of the New Economics of the Minimum Wage. However, we find that the positive employment effect of minimum wage is not driven by the decrease in youth unemployment, but rather mainly from the increase in the participation rate by youths. Therefore, the policy implication derived from Taiwan's empirical study suggests that in the short run the minimum wage has no adverse effect on youth employment, however, the long-run effect of the minimum wage on youths may be large and harmful as the increasing early dropout of them from school into the labor market interrupts the accumulation of human capital and thus deters the long-run economic growth of the economy. © Hitotsubashi University.	Policy maker effects	E
Zagler M.	Does economic growth exhibit a different impact on job creation and	2006	Scottish Journal of Political Economy	The aim of this paper is to empirically investigate the link between economic growth and unemployment, using microeconometric evidence for the United Kingdom. The results show a significant and negative relation between unemployment and economic growth, using fixed effects panel regression methods. This implies that faster sectoral change, driven by higher rates of innovation and therefore by higher rates of economic growth, would foster structural unemployment. Moreover, we find that economic growth even more strongly influences job creation and job destruction.© 2006 Scottish Economic Society. Published by Blackwell Publishing Ltd.	Structure change, productivity growth, education and training	E

	job destruction?					
Morvay K.	The analysis of labour market development in Slovakia in 2005 with short outlook [Zhodnotenie vývoja trhu práce na Slovensku v roku 2005 a jeho krátkodobý výhľad]	2006	Ekonomicky casopis	In previous years, development of macroeconomic parameters was favourable, excerpt the labour market. Trends in unemployment rate, as well as development of real wages seemed not to be in accord with high economic growth. In 2005, the development on the labour market was different, and more favourable than in previous years. However, the reduction of the unemployment rate was connected with the emerging of other king of imbalance - higher growth of real wages compared with lower growth of productivity. This article explains changes in the development trends in the year 2005, makes statements to some discussed topics (risks of imbalance between wage growth and productivity growth or the scope of tax wedge) and indicates the possible development projections in the years 2006 and 2007.	Labour market institutions and bargaining structure	A+E
Muhanna E.	Inflation targeting and its impact on monitory policy: A south African insight	2006	Banks and Bank Systems	The main task of macro-economic policy is the promotion of sustainable high economic growth, the creation of employment opportunities, the containment of inflation, improvement of the living conditions of all the residents of a country, and the elimination of unjustifiable discrepancies in the distribution of income amongst our people. These economic objectives can best be obtained amongst other things in a stable financial environment. Financial instability is a major obstacle in the fulfilment of this task. Stable financial conditions should be maintained throughout the various phases of the business cycle to attain maximum economic development. Inflation could only have an effect on the rate of unemployment if it could somehow affect the real wage in the economy. That is not impossible, since the real wage is determined by the marginal productivity of labour in a competitive system. A number of countries have successfully adopted inflation targeting monetary policy frameworks in recent years. It is a framework based on hitting an inflation target, and if it is considered that the target is going to be missed, then determining whether a change in policy stance is called for. In this paper I briefly assess the viability of implementing inflation targeting monetary policy framework in South Africa. Monitory policy in South Africa is conducted by the South African Reserve Bank. Those who have lived in South Africa in the past 3 decades witnessed dramatic uncontrollable price increase, convincing the government to take serious measures pertaining to supply and demand of money. This paper analyzes the impact of inflation targeting on monitory policy in general, with a special focus on South Africa as a developing country, highlighting the main strategic approaches implemented as well as the obstacles facing the developing countries and South Africa in particular. © Emaad Muhanna, 2006.	Policy maker effects	F+E
Chang S.-C.	The dynamic interactions among foreign direct investment, economic growth, exports and	2005	Economic Change and Restructuring	The vector autoregression (VAR) method of variance decomposition and impulse response function analysis was applied to analyze dynamic relationships among foreign direct investment (FDI), economic growth, unemployment, and trade in Taiwan. The analysis results show that both economic growth and exports have positive impacts on FDI inflow; however, export expansion has a negative impact on FDI outflow. FDI inflow also has an obvious positive impact on exports and economic performance. The evidence also shows that there is no relationship between FDI inflow and unemployment. In addition, we found that a positive relationship exists between economic growth and exports while a negative relationship exists between unemployment and economic growth. © Springer Science+Business Media, LLC 2006.	Policy maker effects	E

	unemployment: Evidence from Taiwan					
Zagler M.	Wage pacts and economic growth	2005	Journal of Economic Studies	Purpose - The purpose of this paper is to theoretically investigate the impact of wage pacts on economic growth. Design/methodology/approach - This paper presents an innovation driven endogenous growth model, where firms and unions bargain over wages. Findings - Finds that the degree of centralization of the bargaining structure plays a crucial rule for economic performance. Central bargaining, which incorporates the leapfrogging externality incorporated in firm-level bargaining, will yield lower rates of unemployment for a given rate of economic growth. The increase in labor resources will in turn also yield faster growth rates in a corporatist economy. Indeed, when unions focus on issues other than short term wage increases, they may even outperform the non-unionized economy, as they can internalize the knowledge externality through long-term wage moderation pacts. Research limitations/implications - The paper is theoretical with some anecdotal evidence, and lacks thorough empirical testing. Practical implications - There are strong implications for economic policy, suggesting the promotion of wage pacts. Before implementation, prior empirical conformation of the results is required. Originality/value - This is the first paper that demonstrates under which conditions unions can promote economic growth and reduce unemployment through long-term wage pacts. © Emerald Group Publishing Limited.	Labour market institutions and bargaining structure	F
Stockhammer E., Onaran Ö.	Accumulation, distribution and employment: A structural VAR approach to a Kaleckian macro model	2004	Structural Change and Economic Dynamics	The paper investigates the relation between effective demand, income distribution and unemployment empirically. A Kaleckian macro model is presented and tested by means of a structural vector autoregression (VAR) model. The hypotheses explored focus on the determination of unemployment. The VAR model consists of capital accumulation, capacity utilization, the profit share, unemployment and the growth of labor productivity and is estimated for the USA, UK and France. We find that employment is demand-led and that income distribution has little effect on either demand or employment. Technological progress effects income distribution as well as employment. © 2003 Elsevier B.V. All rights reserved.	Inequality and income distribution	F+E
Maritz A.	New Zealand necessity entrepreneurs	2004	International Journal of Entrepreneurship and Small Business	The necessity entrepreneur (NE) is someone who never considered starting or owning a business until there was no other option. Using the methodology of the global entrepreneurship monitor, this paper examines New Zealand necessity entrepreneurs in the light of propositions cited in the literature that NE is associated with three factors: 1 positively with economic growth (real GDP growth rate) 2 positively with unemployment (unemployment rate) 3 negatively with a generous welfare system (expenditures on social security). Factor 1 is confirmed through the GEM data; Factors 2 and 3 are not supported by the data. Immigration is seen as a possible contributory factor to the moderately high NE rates in New Zealand. In addition, unique characteristics of migrant necessity entrepreneurs pave ways for initiatives and intervention by local governments. Copyright © 2004 Inderscience Enterprises Ltd.	Entrepreneurial activity effects	E
Carré M., Drouot D.	Pace versus type: The effect of economic growth on unemployment and wage patterns	2004	Review of Economic Dynamics	Much of the literature on growth and unemployment has emphasized the effect of the increasing pace of technological progress on job instability and wage inequality. But less attention has been placed on how the change in the very nature of work, due to technical change, affects the rate of job destruction, and hence the level of unemployment. We argue that technological progress modifies on-the-job learning and, through general equilibrium effects, unemployment and wage dispersion. In the context of the canonical Mortensen and Pissarides [Rev. Econ. Dynam. (1998) 733] model, we show that, in a routine world, this "on-the-job learning effect" can offset the creative destruction effect induced by an increase in the pace of technological change on unemployment, whereas it can amplify it as jobs become less routine. Moreover, the relationship between wage dispersion and	Structure change, productivity growth, education and training	F

				growth can be non monotone. This finding helps explain the wage compression/expansion observed in time series data. © 2004 Elsevier Inc. All rights reserved.		
Alonso A., Echevarria C., Tran K.C.	Long-run economic performance and the labor market	2004	Southern Economic Journal	This article uses a simple variation of the Solow model to study the interrelations between economic growth and the labor market. We show, both analytically and empirically, that income and capital per worker in the steady state depend positively on flexibility of the labor market; that the steady-state unemployment rate depends positively on the rate of population growth and the productivity growth rate and negatively on the savings rate and flexibility of the labor market; and, finally, that labor market flexibility affects convergence toward steady state.	Labour market institutions and bargaining structure	F+E
Rosenbluth G., Victor P.	The Canadian economy with full employment, no growth, no poverty, and no government deficit: a Keynesian exercise	2004	International Journal of Environment, Workplace and Employment	John Maynard Keynes showed us how poverty and unemployment could be eliminated in developed countries without economic growth. Given the environmental dilemma we all face, developed countries like Canada must drastically reduce their rates of growth if we are to have global sustainability and global elimination of poverty. The simulation exercise conducted in this paper reveals that a Canadian economy with macroeconomic relations not very different from those currently experienced can generate full employment with no growth, no poverty, and no government deficit. The widespread belief that a reduced rate of growth must lead to increasing poverty and unemployment is therefore mistaken. © 2007 Inderscience Enterprises Ltd.	Policy maker effects	F
Zagler M.	A new look at old issues: Keynesian unemployment revisited	2004	International Review of Applied Economics	Economists have long sensed that the failure of goods markets to clear is a prime reason for the emergence of unemployment. The novel feature of this paper is that it discovers a new theoretical basis proving this assumption. The paper claims that in a permanently growing economy, unemployment may be due to the failure of the markets to provide consumers with ever-new varieties of consumption goods. As the difference between desired and available product widens, effective demand declines, leading on the one hand to unemployment, which exhibits a decisive Keynesian flavour as it is the result of goods markets failures, and on the other hand to an increase in involuntary savings, which provide the financial basis to foster innovation and growth. As the higher growth rate increases the probability of failures in effective demand, it further increases unemployment and increases involuntary savings, resulting in a finite multiplier process. © 2004 Taylor and Francis Ltd.	Structure change, productivity growth, education and training	A
Teo A.H.L.	Delinquency risk in residential ARMs	2004	Pacific Rim Property Research Journal	Delinquency risk is a major area of concern to real estate mortgage lenders and potential issuers of Mortgage-backed Securities (MBS). This paper provides the first rigorous analysis of residential adjustable mortgage delinquency in Singapore. By studying 633 individual mortgages from 1980 to 1999, it is found that delinquency risk is dominated by macroeconomic factors and several mortgage loan specific factors. In particular, market sentiment, change in mortgage rate and the premium of mortgage over investment rates have a positive influence on delinquency, while change in unemployment rate, capital appreciation of residential properties and housing rentals exerts a negative impact. However, the direction of influence of the change in economic growth is unclear. Generally, property-specific and borrower-specific characteristics do not have a statistical significant impact on delinquency risks. It is also discovered that rate of delinquency and the performance of the economy have a consistently negative relationship. Consistent with the finding that macroeconomic factors exert the greatest impact on delinquency risk, lenders' abilities to reduce the overall risks of delinquency in their mortgage portfolio are limited. Potential issuers of MBS will also likely find it difficult to package the securities to reduce such risks. © 2004, University of Western Sydney. All rights reserved.	Financial markets and Banking sector effects	E

Askenazy P.	Minimum wage, exports and growth	2003	European Economic Review	Using an endogenous growth model in an open economy, we study the impact of minimum wages on growth for an innovator country. We state that a minimum wage shifts efforts from production to R and D, but only in an open economy. Thus, it speeds up long-run growth in proportional to exports. Calibrations suggest the growth surplus can be significant. An empirical study on 11 OECD countries illustrates these results. The impact on welfare is ambiguous because the minimum wage induces unemployment. However, we show that in an open economy, a minimum wage associated with unemployment benefits can Pareto dominate laissez-faire. © 2002 Elsevier Science B.V. All rights reserved.	Policy maker effects	F+E

8.1. Annex B

Authors	Citations	Total link strength
Aghion, P.	85	984
Phelps, E.S.	78	874
Howitt, P.	70	820
Acemoglu, D.	59	749
Nickell, S.	58	676
Thurik, R.	56	930
Pesaran, M.H.	53	350
Solow, R.M.	51	715
Shin, Y.	50	323
Audretsch, D.B.	49	756
Blanchard, O.	47	563
Romer, P.M.	46	500
Barro, R.J.	45	520
Pissarides, C.	43	487
Layard, R.	42	502
Pissarides, C.A.	42	397
Van Stel, A.	38	716
Okun, A.M.	36	242
Acs, Z.J.	34	616
Ball, L.	34	328
Kaldor, N.	34	533
Sala-I-Martin, X.	34	427
Card, D.	33	268
Granger, C.W.J.	32	172
Schneider, F.	32	67
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Lavoie, M.	31	487
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Taylor, L.	30	515
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