

# List of Projects

## Sandra M. Leitner

### **The Effect of Digitisation on Work in Europe** (*wiiw Team Leader*)

*Anniversary Fund of the Oesterreichische Nationalbank*

*April 2020 - March 2022*

The project analyses digitisation and its impact on work from two different perspectives. On the one hand, it not only sheds light on regional digitisation patterns but also examines the effect of digitisation on employment in EU countries at the NUTS-2 level. It explicitly accounts for the complex, multi-dimensional phenomenon of digitisation: it goes beyond conventional measures used in the literature and, aside from industry-specific information on robots and different types of ICT investments, also takes measures on the usage of online computing, big data analysis, E-commerce sales, social media or digital infrastructure into account. Methodologically, it goes beyond standard approaches applied in the empirical literature and provides novel insights into regional and industry spillovers as well as non-linearities in the employment effects of digitisation. On the other hand, it explores the effects of digitisation on workers' well-being. It takes an integrated approach and simultaneously determines both positive and negative psychological effects of ICT use, as captured by work engagement and burnout, respectively. It also sheds light on the role of other (job and/or personal) characteristics in either reinforcing or mitigating the positive or negative effects of ICT use on workers' psychological well-being.

### **The production side of 'digitalisation' and its impacts**

*Anniversary Fund of the Oesterreichische Nationalbank*

*September 2019 - February 2021*

The project comprises four main tasks linking the production and use side of the digital sector. In the first task the production and supply side of the ICT goods and services sectors is studied. An overview of the ICT industry across countries is provided based on various data sources at the industry and firm level. Determinants of ICT industries' performance and drivers of investment by ICT superstars across the European Union are analysed. The second task then focuses on the patterns of trade of ICT goods and services linking the supply side of the digital sector to its demand. Furthermore, the impact of technical regulations and standards embedded within Technical Barriers to Trade (TBT) on patterns of trade flows of ICT goods are analysed. Task three focuses on the investment in ICT capital assets and building up of an ICT capital stock across countries and industries. Gross capital formation and capital stocks in different asset types and their contribution to employment and value added growth will be studied. Finally, the fourth task is devoted to a comparative analysis of the bias of ICT driven technical change - that is expected to be in general labour-saving and capital using in the industrialised countries though differing across countries and industries. Finally, in the last part of task we study whether and how ICT driven technical change impacts on structure of labour demand by various groupings.

### **Entwicklung, Organisation, Durchführung und Evaluierung von Seminaren am Joint Vienna Institut (JVI)**

*Oesterreichische Nationalbank/Austrian Ministry of Finance*

*January 2020 - December 2020*

wiiw drafts and organises seminars within the framework of the Joint Vienna Institute (JVI). These seminars are targeted at decision-makers in the public sector from transition countries in Southeast-Europe and the CIS states and are obliged to present and discuss relevant topics in economic policy issues. wiiw organises several seminars per year and is responsible for their entire conception, organisation and choice of presenters.

### **Importance of Services Trade for the EU Economy and the Impact of Brexit**

*Anniversary Fund of the Oesterreichische Nationalbank  
January 2019 - September 2020*

Services are a key sector of the global economy, accounting for the bulk of GDP in most countries and for a significant share of global trade. The long history of economic integration created close ties between the UK and rest of the EU that are not so easy to disentangle. In order to estimate the potential costs of Brexit it is important to better understand the interdependency of the EU members' economies with respect to services trade as a rise in services trade cost post-Brexit would impact not only the UK services firms, but also services suppliers and manufacturing producers in the EU. It is likely that some trade diversion will take place both in the UK and the EU, resulting in reallocation of resources to less efficient firms and negative welfare effects. In our study we wish to explore in detail the linkages between the UK and EU-27 economies with respect to services sectors and estimate possible effects of Brexit for both the UK and the remaining EU members.

### **ArBeEi International - Grundlagen- und angewandte Arbeitsmarktanalysen**

*Federal Ministry of Labour, Social Affairs and Consumer Protection (BMASGK)*

*July 2017 - June 2020*

Der Prozess der Globalisierung sowie die zunehmende Integration Europas stellen den Arbeitsmarkt in Österreich vor große Herausforderungen. Zunehmende wirtschaftliche Verflechtungen (v.a. über Handel, Direktinvestitionen, Offshoring, Migration) haben erhebliche Auswirkungen auf die Bedingungen am Arbeitsmarkt, auf Lohn- und Einkommensentwicklungen und Beschäftigungsstrukturen. Evidenzbasierte Handlungsempfehlungen für die Wirtschaftspolitik im Allgemeinen und die Arbeitsmarktpolitik im Besonderen erfordern daher eine Analyse mit einer internationalen und vergleichenden Perspektive. Für Österreich bedeutet das, die arbeitsmarktrelevanten Entwicklungen seiner Nachbarländer, v.a. der mittel- und osteuropäischen Nachbarn, der Beitrittskandidaten und der EU Nachbarregionen genau zu analysieren, und natürlich auch eine globale Perspektive zu entwickeln. Dieses vom österreichischen Sozialministerium beauftragte Forschungsprojekt beschäftigt sich mit diesen Themen. Es ist auf drei Jahre angelegt und in vier Teilbereiche gegliedert: (1) Technologie, Globalisierung und Konvergenz in der EU, (2) Mobilität von Arbeitskräften und Migrationstrends, (3) Konjunktur, Beschäftigung und Arbeitslosigkeit und (4) institutionelle Rahmenbedingungen und deren Effekte auf Wachstum, Beschäftigung und Ungleichheit.

### **Impact Assessment study on the Revision of Machinery Directive**

*European Commission, DG Growth*

*January 2019 - April 2020*

The Machinery Directive is the core European legislation for placing on the market products of the mechanical engineering industries. Products covered range from lawn movers to 3D printers, from electrically powered hand-tools to construction machinery, from commercial service robots to complete automated production lines. The study looks whether there is need for specific improvements and specifications of the Directive and whether the Directive is conducive to innovation in digitalisation, Internet of Things, Artificial Intelligence, the new generation of autonomous robots and cybersecurity. The role of wiiw is to provide an economic and market analysis of the machinery sector in Europe and to compare it to that of its major competitor countries.

### **SEE Jobs Gateway**

*The World Bank*

*July 2016 - March 2020*

Within this project, an annual flagship report on *Western Balkans Labor Market Trends* is launched. The Report is based on a dedicated regional labour market database for the Western Balkans, established and compiled by wiiw in cooperation with the Statistical Offices of the region. It allows, for the first time, to calculate aggregate labour market indicators across the six Western Balkan countries and to directly compare them with each other and with selected EU peer countries. The reports and database are available on the wiiw website. Overall, the initiative aims to provide access to labour market information and data for national policy-makers in the Western Balkans, as well as the international and academic communities. At the same time, it aims to generate interest among the press, NGOs and the wider public and thereby to encourage the debate on labour market policies.

<https://wiiw.ac.at/seejobsgateway.html>

### **DG ECFIN Fellowship-Initiative 2018-2019 - The productivity challenge: jobs and incomes in the dawning era of intelligent robots**

*European Commission, DG Economic and Financial Affairs*

*October 2018 - June 2019*

Two important but conflicting longer-term trends can currently be observed: On the one hand - at least in some publications - the emergence of new technologies is expected to have a strong negative impact on employment in individual countries. On the other hand, there is a demographic development in the European countries (especially in Eastern Europe), which in the medium to long term indicates a decline in the total population and an even stronger decline in the working age population and thus a sharp decline in the labour supply. Against this background, the potential employment effects of new technologies are examined, particularly with regard to their labour-saving effects, and confronted with current demographic trends. As a further step, it is analysed to what extent the new technologies have the potential to increase labour productivity so that the potential labour shortage can be compensated.

### **Integration of recent refugees and third country nationals into the Austrian labour market**

*Anniversary Fund of the Oesterreichische Nationalbank*

*October 2016 - June 2019*

The aim of this project was to investigate the opportunities and challenges of integrating refugees and migrants in the Austrian labour market. A particular focus of the analysis was to follow the dynamics of labour market integration, building on a variety of longitudinal databases, including our own survey (FIMAS) covering recent refugees/asylum seekers as well as register-based labour market career data from Statistics Austria. The aim was to follow the experiences of different groups of refugees and migrants coming from different countries of origin with their specific personal characteristics, social contexts and participations in various policy programmes. Analytically, labour market integration was analysed along a number of different dimensions of integration (such as social network formation, cultural integration, integration into the health and other aspects of the welfare system, training and educational integration, etc) to check how these interact to facilitate or hinder labour market integration. An important part of the project addressed the vulnerability of refugees to mental health problems and identified the effect of stressors and resilience factors on their mental health situation. Various state-of-the-art statistical methods were applied to analyse the heterogeneity of experiences, effectiveness of policy programmes and interaction between different dimensions of integration.

### **Migration and Globalisation - Impacts and Interaction**

*Anniversary Fund of the Oesterreichische Nationalbank*

*March 2016 - March 2018*

This project contributes to the current debate on the effects of immigration by considering how migration impacts upon and interacts with other forces of globalisation. The project will largely focus on the EU-27 countries, examining the impact of intra-EU and extra-EU migration flows on trade, FDI and off-shoring. The project will focus on four major issues, namely: (i) the impact of immigration on (North-South) FDI flows; (ii) the relationship between migration and services trade flows; (iii) the interactions between migration, trade and FDI flows; (iv) migration and offshoring and their impact upon labour markets and inequality in EU economies.

### **Investigating the Impact of the Innovation Union (IU) (wiiw Team Leader)**

*European Commission, Horizon 2020*

*March 2015 - February 2018*

Innovation has been placed at the heart of the Europe 2020 strategy aimed at coping with major structural changes, the increase of global competition and the current crisis, and at tackling major societal challenges such as climate change, energy and resource scarcity, health and ageing. The Innovation Union has the main objective to strengthen the European innovative potential; it sets 13 general objectives and 34 specific (policy) commitments associated with the objectives, aimed at stimulating innovation. The objective of this project is to deliver a system of assessment for the commitments. The approach starts from the evaluation of the state of achievement of the individual commitments, but puts crucial emphasis on their effects on the innovation system as a whole, as well as on the economy-wide effects of innovation. The basic idea is to retrace the entire chain of effects of the commitments, from their implementation to their final impact in terms of competitiveness, growth and employment. wiiw is responsible for the evaluation of seven IU commitments having been agreed in the areas of EU patents, eco-innovation, social and territorial cohesion, social innovation, innovation partnerships and international talents.

<http://www.i3u-innovationunion.eu>

### **Competitiveness drivers and obstacles, intra-EU linkages and European value chains in GVCs**

*European Commission, DG Growth*

*January 2017 - January 2018*

The emergence of international value chains (VCs) and the implied cross-border production sharing between countries has dramatically altered the international trading system. In view of the joint cross-border production processes numerous products would deserve the designation of origin 'Made in the World', as suggested by the WTO initiative of the same name – although in general there is the perception that international value chains are predominantly regional in scope. Since the Great Recession, however, there are concerns that the trend towards geographically-dispersed production has come to a halt with, among other factors, re-shoring initiatives and protectionist tendencies. Against this background this report analyses some of the key issues related to international VCs with data from the World Input-Output Database (Release 2016) which covers the period 2010-2014. Based to a large extent on a measure of international value chain (VC) trade termed re-exported domestic value added, which comprises exports of intermediates that cross international borders at least twice, the question whether the world has reached 'peak value chain trade' and to what extent VCs have contributed to the decline in the income elasticity of trade is addressed. The research also re-examines whether value chains are predominantly global or regional in scope both worldwide and at the EU level. Furthermore, the extent of regional VC integration across the major regional trading blocs is compared. Finally, some of the implications of value chain trade for structural change and competitiveness are investigated.

### **Diagnostic Report for Partner Country Programme (PCP) Kyrgyzstan**

*UNIDO*

*August 2017 - November 2017*

At the moment, Kyrgyzstan's manufacturing sector is dominated by gold production, creating only a limited number of jobs but putting a heavy burden on the natural environment. Meanwhile, strong and inclusive growth, which would be consistent with the country's long-term objectives (such as those envisaged in the "40 steps to the New Era" government programme) and the UN Sustainable Development Goals, would require a stronger emphasis on manufacturing industries such as food and beverages, textiles, and wearing apparel. Their labour-intensive production processes and strong linkages with other sectors, particularly agriculture, could generate badly needed formal jobs and make the country less dependent on the informal sector and the inflow of remittances from abroad. Kyrgyzstan's inexpensive, trainable labour as well as low energy costs are internationally competitive, and represent clear advantages for the growth of such industries. However, these advantages are offset by the low productivity of firms, which tend to be too small and fragmented to reach a productivity level required to compete internationally and still suffer from insufficient access to credit. Besides, the country suffers from major logistical problems for trade, which were found to be greater than in other landlocked countries at a similar development level, such as Moldova and Laos.

### **Über die Wirkungen von Freihandel - Eine Bestandsaufnahme der ökonomischen Literatur**

*Federation of Austrian Industries*

*June 2017 - November 2017*

The discussions about globalisation, and free trade in particular, have gained momentum in recent years. For a comprehensive and rational debate about the mechanisms and effects of free trade, an analysis based on theoretical arguments and empirical facts is needed. The related topics encompass the effects of trade on real income, inequality, employment, macroeconomic outcomes and the way free trade is governed. This contribution summarises the most important theoretical arguments concerning these topics and confronts them with recent empirical research results.

### **Falling Behind and Catching Up in Southeast Europe (GDN)**

*Oesterreichische Nationalbank/Austrian Ministry of Finance*

*January 2014 - May 2017*

Southeast Europe holds a long record of being one of Europe's least developed regions. Sporadic growth spurts are regularly followed by strong fall-backs. Neither firms, nor banks or states were able to make broad industrialization happen in a sustainable way. The proposed research analysed the determinants and effects of backwardness in Southeast Europe. The analysis included inter alia issues of long-run development, industrialization, infrastructure, the role of cities, migration, state building and financial crisis. The results yielded important policy recommendations.

### **Global Development Network Southeast Europe (GDN\_SEE)**

*Oesterreichische Nationalbank/Austrian Ministry of Finance*

*February 2009 - July 2016*

wiiw acts as regional hub for SEE within the Global Development Network (GDN) in providing capacity building for research and policy advice in the areas of labour markets, migration, trade, etc. wiiw initiated several research competitions in the region and also performs own research in this context. The topics of the most recent project phase were labour market developments, inequality, migration and fiscal systems in SEE.  
<http://balkan-observatory.net>

### **The evolving composition of intra-EU trade over time**

*European Commission, DG Growth*

*January 2016 - July 2016*

Global trade in goods and services was severely hit by the economic crisis in 2008, which initiated a pronounced but short-lived trade collapse. Until 2011 trade flows recovered relatively quickly, but since then global trade in goods has been rather anaemic. This development is partly the result of the low dynamics of EU-related trade which accounts for a large share of global trade flows. Regarding intra-EU trade a strong increase in overall bilateral trade intensities is observed. The process of EU integration before the crisis and differentiated growth patterns of goods and services exports implied that exporting activities became slightly less concentrated across EU Member States. However, specialisation dynamics implied an increasing geographic clustering and specialisation of goods and services exports across Europe. These changes in the geographical patterns of intra-EU trade activities were mostly driven by changes in the patterns of trade in the medium-quality segment which can be interpreted as a 'climbing up' phenomenon of less advanced countries. Results from a gravity framework suggest a structural break of these trends after the crisis. Another aspect of the increasing trade intensity is the role and magnitudes of intra-firm trade and potential determinants thereof. However, research on this is hampered by a severe lack of data and only a few insights can be gained, mostly for extra-EU trade. Results based on foreign affiliates' trade statistics (FATS) data indicate that intra-firm trade flows were responsible for more than half of total trade between the EU and the US in 2012. Results also suggest that intra-firm trade has been more resilient to the trade crisis despite the more difficult global environment for foreign direct investment and export activities. Based on a gravity approach, overall EU intra-firm trade is estimated to be lower, though these results need to be interpreted with caution. In a case study based on Irish firm-level data it is shown that intra-firm trade accounts for 30% of exports and 25% of imports.

### **Innovation in the CESEE region: from pre-crisis credit boom to the effects of the financial crisis (wiiw Team Leader)**

*Anniversary Fund of the Oesterreichische Nationalbank*

*July 2014 - December 2015*

In Europe's Emerging Market Economies a change in the underlying growth and catching-up model of the last decades is becoming apparent. The proposed study was one of very few studies on developing and emerging economies in Central, East and Southeast Europe (CESEE) focusing on innovation activity in this region. It analysed drivers and effects of innovative activities at the firm level for a comprehensive set of countries in the CESEE region. The study looks at three phases of economic and financial development, namely 'financial normalcy' (2000-04), the emergence of the credit and housing 'bubble' (2004-08) and the 'crisis' (from 2008 onwards) and at two innovation strategies (make and buy) and analyses the role of (i) credit constraints as an impediment to innovation activities and success, of (ii) foreign-controlled enterprises and their potentially superior innovation and firm performance and of (iii) the strategic choice of R&D cooperation partners for innovation success.

### **Industrial competitiveness and market performance (ECSIP)**

*European Commission, DG Growth*

*April 2012 - December 2015*

The individual studies of this framework contract provide an input to the assessment of existing and the formulation of future EU industrial and related policies as well as monitoring industrial performance. Typically, the unit of analysis is the individual industry or, as appropriate, groups of related industries. It also includes the value chain(s) in which the industry is embedded, an assessment of a particular (industrial) policy initiative and its impact on the competitiveness of the industry in question. The emphasis of the studies is on the structural and microeconomic factors affecting and reflecting competitiveness and market performance of an industry. Macroeconomic analysis, econometric analysis and modelling may complement the investigation. wiiw was involved in three of these studies: 'The luxury industry in Europe', 'The role of firm innovation and the impact of that decision on the location of innovation', and 'The relation between industry and services in terms of productivity and value creation'. In the latter one, wiiw also had the coordinator role.

<http://www.sectorcompetitiveness.com/>

## **Recent patterns of labour mobility in the European Union**

*Anniversary Fund of the Oesterreichische Nationalbank*

*July 2013 - March 2015*

In the EU the level of labour mobility is comparably low, but rising due to intensified labour market flexibility and increasing migration flows. The project analysed changing patterns of labour mobility in a detailed manner in the countries, regions and economic sectors of the EU by applying a descriptive and an econometric approach. A specific focus was put on whether international migrants respond more flexibly to labour market demands. Moreover, the effects of external shocks during the financial and economic crisis on the scale and structure of labour mobility was analysed. The project drew on two micro-datasets: the EU labour force survey for performing a worker flow analysis and the MICRO-DYN database, which provides data based on EU-wide firm-level data to perform a job flow analysis. In the econometric approach we applied regional, country, sectoral and workers characteristics to detect the reasons for differences in the European wide map of labour mobility.

## **The future development of EU industry in a global context**

*European Commission, DG Enterprise and Industry*

*December 2014 - March 2015*

The objective of this study was to assess the future development of EU exports. By applying advanced econometric techniques, the future development of export performance of manufacturing and services sectors have been examined under various assumptions. In particular, the study aimed to identify future strengths and weaknesses in EU exports, in order to derive policy recommendations for Member States and EU institutions. Results of this exercise have been used to assess future developments of sectors classified by technological intensity, value added intensity, and growth impacts as well as other measures.

## **Competitiveness of the European Economy**

*European Investment Bank (EIB)*

*June 2014 - February 2015*

The objective of this study was to provide a snapshot of current competitiveness of the EU and its member economies, as well as the evolution of their competitiveness over time. Competitiveness comparisons with the US, Japan, China and other emerging market economies are of interest. To the extent possible, services as well as manufacturing were discussed. The empirical relationship between international trade, competitiveness and productivity was described. If suitable and useful, EU economies with similar traits were grouped or clustered, thereby facilitating the discussion.

## **The relation between industry and services in terms of productivity and value creation**

*European Commission, DG Enterprise and Industry*

*January 2014 - September 2014*

This Request for Services within a Framework Contract on Industrial Competitiveness highlighted the importance of the interrelation between manufacturing and services and its impact on productivity. The increasing 'servitization' of manufacturing becomes an important aspect with respect to competitiveness and the linkages between these activities become crucial. The purpose was to understand the mechanisms by which the industry and service sector complement each other to create higher value added products. This implied three central areas of interest: (i) quantification of the effects of co-operation; (ii) an improved understanding of the mechanisms of interaction, against the background of the changing natures of manufacturing and services and (iii) an understanding of the most important barriers concerning these interactions. wiiw had the lead in this project which was done in cooperation with Ecorys, IFO and IDEA.

## **The Competitiveness of firms, regions and industry in the knowledge-based economy: What room for job-rich growth in Europe? (MICRO-DYN)**

*European Commission, 6th Framework Programme*

*October 2006 - January 2011*

MICRO-DYN dealt with growth, employment and competitiveness in the knowledge-based European economy through a micro-founded firm-based approach. The nature of the analysis was 'bottom-up' i.e. moving from the micro-entities of economic actions and strategies at the enterprise level to sectoral, regional, national and European levels. The rationale for such an approach was that understanding the microeconomic foundations of innovation, competitiveness and growth at the firm level, as well as the firms interactions with the labour market, is key to

understanding the nature of these phenomena at a more aggregated (regional, sectoral or macro) level and of the resulting aggregate economic performance. The analysis used as far as possible comprehensive data-sets across all European regions and industries. wiiw co-ordinated a consortium of 17 research institutions.  
<http://www.micro-dyn.eu>