

BOOK OF ABSTRACTS

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# EconWorld2024@Madrid

1–3 February 2024

*Madrid, Spain*

*Gran Hotel Conde Duque*

# WELCOME



The 16th EconWorld conference (International Conference on Economics) was held in Madrid, Spain on 1–3 February 2024 at Gran Hotel Conde Duque.

## PROGRAMME AT A GLANCE



### THURSDAY, 1 FEBRUARY 2024

|             |                                                         |
|-------------|---------------------------------------------------------|
| 10:00–11:40 | T1T – Labour and Macroeconomics (Olivares Meeting Room) |
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### FRIDAY, 2 FEBRUARY 2024

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| 10:00–11:00 | F1A – Topics in Economics (Zoom Room Madrid) |
| 11:20–12:40 | F1B – Macroeconomics (Zoom Room Madrid)      |
| 13:00–14:00 | F1C – Labour (Zoom Room Madrid)              |

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Thursday, 1 February 2024 • 10:00–11:40 • Olivares Meeting Room • Chair: Aliye Atay

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| 10:20 | Persistent US Current Account Deficit: The Role of Foreign Direct Investment<br><i>Kaan Celebi</i>                                   | p. 8  |
| 10:40 | Fed Projections vs Professional Forecasts in Times of Crisis<br><i>Christian Jensen</i>                                              | p. 9  |
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| 12:00 | Determinants of The Total Factor Productivity Changes in A Panel of Relevant European Union Banks<br><i>Candida Ferreira</i> | p. 17 |
| 12:20 | Possible Effects of Global Trends on Turkish Agricultural Products Foreign Trade<br><i>Sevgi Sezer</i>                       | p. 18 |

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| 13:20 | Human development and inequality: The importance of social expenditure<br><i>Ronald Miranda</i>                            | p. 20 |
| 13:40 | Unemployment Decomposition in Spain for the period 1980-2019: Evolution of Structural Unemployment<br><i>Miguel Calero</i> | p. 22 |

## ABSTRACTS



*T1T – Labour and Macroeconomics · Thursday 1 February, 10:00–10:20, Olivares Meeting Room*

# Gender and Labour Market Integration Programme

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## ABSTRACT

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Registered Apprenticeships represent a growing labour market integration programme in the United States. The United States's Department of Labor implemented competency-based Registered Apprenticeship (CBRA) in 2008 to address gaps traditional time-based Registered Apprenticeship (TBRA) had in serving women and minorities. We further analyse whether this effect is even stronger for women with uncertified but existing and occupational-relevant skills. Women are significantly more likely to enrol into CBRA programmes, relative to TBRA. Women with existing but uncertified skills are significantly more likely to enrol into CBRA, whereas women without skills or with college degrees are not significantly different from the baseline. Our findings are robust to various specifications, and we include a comprehensive set of fixed-effect vectors, addressing industrial, occupational, and time-varying state specificities. We support the robustness of our econometric methods used with Monte Carlo simulations, and rely on the econometric literature. We discuss the implications of our findings, highlighting how CBRA may be an approach to better serving more diverse populations in Registered Apprenticeship.

**KEYWORDS** Gender; labour market integration; microeconometrics; training

**JEL** J01, J10, J16

*T1T – Labour and Macroeconomics · Thursday 1 February, 10:20–10:40, Olivares Meeting Room*

# Persistent US Current Account Deficit: The Role of Foreign Direct Investment

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<sup>2</sup>DIW Berlin, Germany

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## ABSTRACT

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This paper re-evaluates the US current account deficit which has considerably widened over the 1990s. US safe asset provision to the rest of the world is the dominant explanation for the persistent nature of the US external deficit. We suggest that apart from the safe asset hypothesis, there is an important role for technology shocks originating in US multinational companies which have a strong foreign direct investment presence. It is shown that technology shocks which increase the market value of FDI assets are loosening the sustainability constraint on the current account and therefore generate persistent current account deficits. Our analysis suggests that this channel can explain why the US tech-boom in the 1990s has contributed significantly to the increase of the US current account deficit and its duration. Technology shocks have been neglected as a reason for longer lasting current account deficits since for these shocks, standard open economy DSGE models can only generate temporary external deficits. We show that our enhanced DSGE-model – covering both trade and FDI – not only matches well the dynamics of the US external balance but can also account for the observed evolution of FDI related components of the external balance. In particular, US technology shocks can match the increase in net FDI income and a rising FDI capital balance. Our analysis suggests that FDI flows and their determinants should play a more important role for monitoring external imbalances by international organizations.

**KEYWORDS** foreign direct investment; current account imbalance; USA; DSGE; technology shocks

**JEL** D5, F21, F23, F32, O3

*T1T – Labour and Macroeconomics · Thursday 1 February, 10:40–11:00, Olivares Meeting Room*

# Fed Projections vs Professional Forecasts in Times of Crisis

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## ABSTRACT

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Because short-run economic outcomes such as inflation and output, depend on private-sector expectations, central banks commonly try to guide these by publishing projections of key macroeconomic variables. Despite theoretical results showing that policymakers can always achieve their policy objectives to a greater extent when exploiting their guidance to mislead the public, empirical evidence of such deceptive practices has been elusive. Under the assumption that the public is likely to rely more on central bank projections in times of extremely rare shocks whose consequences and policy reactions are more difficult to predict, and that it can be easier for policymakers to get away with manipulation in such exceptional circumstances, we study FOMC projections in times of crisis. In particular, we focus on the 2020-2023 period, which encompasses the COVID-19 pandemic and the Russian invasion of Ukraine, including the ensuing energy crisis. By comparing with forecasts by professional forecasters not involved in monetary policymaking, we test for misleading projections by the FOMC.

**KEYWORDS** Central bank projections; forward guidance; survey forecasts; managing expectations; monetary policy

**JEL** E52, E58

*T1T – Labour and Macroeconomics · Thursday 1 February, 11:00–11:20, Olivares Meeting Room*

# The Impact of Contract Farming on Agricultural Productivity: Evidence from Türkiye

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## ABSTRACT

This paper examines for the first time the impact of contract farming on non-contracted crops (barley and wheat). For the data set of the study, 304 face-to-face surveys were conducted with farmers in 11 districts of Konya province. A total of 438 observations were obtained from the surveys, 184 of which were for barley and 254 for wheat. Stochastic Frontier Analysis findings showed that contract farming increases efficiency for both barley and wheat. Analyses also show that some demographic, farming related and soil related factors (age, education, disaster, delay in harvest, ownership of agricultural equipment, stony soil and hilly slopes) also have impact on the efficiency of barley and wheat.

**KEYWORDS** Contract farming; Efficiency; Crop production

**JEL** D86, D61, Q12

*T1T – Labour and Macroeconomics · Thursday 1 February, 11:20–11:40, Olivares Meeting Room*

# Role of Social Entrepreneurship in Sustainable Development Goals: Evidence from an Emerging Economy

Muhammad Ishtiaq Ishaq<sup>1</sup>

<sup>1</sup>Quaid-i-Azam University Islamabad, Pakistan

## ABSTRACT

**Purpose:** Entrepreneurship in the hospitality and tourism sector has gained significant importance from governments, practitioners, and researchers. Although entrepreneurship allows firms to create wealth through new venture creations, it also helps organizations find opportunities for new market entry. But the rise in social responsibility and sustainability concerns, the need to balance economy, culture, sustainability, environment, and consequences are becoming serious concerns for hospitality and tourism industries. Therefore, associating sustainability issues with entrepreneurship into social entrepreneurship is becoming an emerging trend for researchers in the management field. This research aims to find the relationship between social entrepreneurship and sustainable development in the Pakistani hospitality industry. More specifically, the purpose is to identify the impact of social entrepreneurship on green innovation, social performance, and sustainable community development. This study also explores whether institutional support strengthens (or dampens) the relationship of green innovation with social performance and sustainable community development. **Methodology:** A multi-study approach was used for this research. In Study 1, the data was collected from 294 respondents working in the hospitality industry of Pakistan on social entrepreneurship dimensions. Study 2 was conducted with a sample of 358 respondents for the main purpose of current research. **Findings:** The results of Study 1 confirmed the nomological validity of the social entrepreneurship scale in Pakistani culture. The findings of Study 2 also supported our research hypotheses with interesting findings. Social entrepreneurship positively impacts green innovation, social performance, and sustainable community development. Moreover, institutional support strengthens the positive impact of green innovation on social performance and sustainable community development. **Practical Implications:** The key implication of this research is to understand the significance of social entrepreneurship among employees so that they can recognize the opportunities for community development. **Theoretical Implications:** This is the first study that explores the role of social entrepreneurship in the hospitality industry of an emerging economy. This could identify how the hospitality industry in emerging economies will help the respective nations address sustainable development goals.

**KEYWORDS** Social Entrepreneurship; Green Innovation; Community Development; Hospitality Industry

**JEL** L26, L31

# Use of Unmanned Aerial Vehicles in Agricultural Sector and Its Effect on Productivity: Firm Evaluation

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<sup>1</sup>University of Turkish Aeronautical Association, Turkey

## ABSTRACT

The share of agriculture in national income is of great importance in most countries. 37% of the world's workforce works in the agricultural sector. 70% of water resources are used in agriculture. Threats such as climate changes, natural disasters, newly encountered viruses, adverse weather conditions, decrease in natural resources, population growth and increasing food demand have led to the emergence of new alternatives in agriculture. The widespread use of Unmanned Aerial Vehicles (UAVs) in the agricultural sector is an substantial example that explains this issue. In agriculture, Unmanned Aerial Vehicles (UAVs) can be used in areas such as aerial imaging, soil monitoring, monitoring and counting herd movements, monitoring irrigation and spraying. Advantages such as safety in use, high efficiency, environmental protection, waste reduction, resource saving, ease of use and maintenance increase the importance of UAVs. In this study, the effects of the use of UAVs in agriculture on productivity and therefore on the economy were investigated and the advantages and disadvantages of UAV use were evaluated. Some private companies that carry out agricultural spraying using UAVs in the Sakarya region were examined and data on companies' barley, sunflower, wheat and corn production costs were analyzed. In case of using UAV instead of tractor in agricultural spraying; it has been concluded that product loss resulting from spraying can be reduced to zero levels. Moreover, the cost of spraying can be reduced by up to 30% compared to the cost of spraying with a tractor. It was also discussed that manpowering and time can be saved in agriculture by using UAVs in other areas.

KEYWORDS UAV; Digital Agriculture; Agricultural Spraying

JEL O3, Q1

*F1A – Topics in Economics · Friday 2 February, 10:20–10:40, Zoom Room Madrid*

# Media-linked Directors and Corporate Risk-Taking: Evidence from China

Hao Tian<sup>1</sup>

<sup>1</sup>Zhongnan University of Economics and Law, China

## A B S T R A C T

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This study examines whether and how firms sharing a board member with a media company affects corporate risk-taking. Using a sample of firms in China, we find that firms with media-linked directors exhibit a higher level of risk-taking than their non-media-linked peers. Further analyses show that the effect is driven by media-linked director's information dissemination role rather than information creation, as media-linked firms receive more media coverage resulting from non-original. The positive effect of media-linked director on corporate risk-taking is prominent for firms with less transparent information environment, weaker internal and external governance. It is also more pronounced for directors who sit on the independent position and are from non-local media. Our result is robust to a set of sensitivity tests and two instrumental variable and propensity score matching analyses suggest a causal relation. As such, our paper highlights the importance of board composition in corporate decision-making and enriches the literature on the influence mechanisms of media on firms.

**KEYWORDS** Media-linked; Directors; Risk-Taking; Media Attention

**JEL** G32, G14

*F1A – Topics in Economics · Friday 2 February, 10:40–11:00, Zoom Room Madrid*

# Gendering small-scale fisheries in Sub-Saharan Africa: Assessing the impact of training on women's income, household food security and dietary quality

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<sup>1</sup>Nordic Africa Institute, Sweden

## ABSTRACT

Women contribute significantly to the small-scale fisheries (SSF) sector, food security and nutrition of their households. Yet, they face barriers including access to training and capacity-building. We combine inverse probability weighting methods with matching estimators to evaluate the impact of women's training in SSF value chain on their income from fisheries activities, food security and dietary quality of their households in four sub-Saharan African countries (Ghana, Tanzania, Malawi, and Sierra Leone). Our results show that on average, fisheries-related income was about \$41-\$49 higher for women who received training than those who never received any training. The respective improvements in household food security and dietary quality were 10% to 11% and 3% to 5%. Such training has statistically significant effects on dietary quality and income in Ghana and Malawi, and household food security and income in Tanzania, but weak evidence in Sierra Leone. The channel analysis shows that women's training in SSF value chain significantly contributes to an increase in the number of days that their households consume fish by an average of 0.6, while increase in their income for receiving training contributes to the food security and dietary quality of their households by 3.4% and 1.3%. Considering this heterogeneous results, we recommend that government of the respective countries and their development partners must implement country-specific training programmes that are based on women's role in the SSF sector, their influence on decision-making on household income and food consumption, existing levels of food security and the overall development of the fisheries sector.

**KEYWORDS** Training; Small-scale fisheries; fisherwomen; income; food security; dietary quality

**JEL** J16, Q01, Q18, Q22

*F1B – Macroeconomics · Friday 2 February, 11:20–11:40, Zoom Room Madrid*

# Decomposition of Consumer Sentiment and the Effects of Cyclical Component on Macroeconomic Variables

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<sup>1</sup>The University of Texas at Dallas, USA

## ABSTRACT

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Consumer sentiment is believed to impact the business cycle and the macroeconomy, as optimism drives spending and investment, while pessimism can trigger economic slowdowns by reducing spending. Conventional empirical models occasionally incorporate sentiment to explain business cycle movements but rarely distinguish consumer optimism or pessimism from overall sentiment. Therefore, I decompose consumer sentiment into trends and cycles using various econometric methods. To mitigate discrepancies arising from specific statistical methods, I construct an average cycle based on five distinct measures, i.e., Hodrick and Prescott filter, Hamilton filter, correlated Unobserved Components model, Beveridge-Nelson filter, and Multivariate Beveridge-Nelson decomposition. Then, I analyze the impact of average cyclical sentiment shocks, representing consumer over-optimism or pessimism, on inflation expectations and macroeconomic variables such as unemployment, core CPI inflation, CPI inflation, and industrial production, using monthly U.S. data from 1978 to 2022. The findings show that average cyclical sentiment shocks significantly impact inflation expectations, unemployment, and industrial production. However, the responses of core CPI inflation and CPI inflation to average cyclical sentiment shocks are ambiguous.

**KEYWORDS** Consumer Sentiment; Business Cycle; Decomposition; Cyclical Sentiment; Local Projection; Impulse Responses

**JEL** D84, E32

# Stock Prices Prediction Using Generative Adversarial Networks (GAN) Method

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## A B S T R A C T

Financial markets are essential due to constantly changing economic conditions and global interactions. Accurately predicting stock prices is crucial for investors and financial analysts. This study aims to conduct an empirical analysis using deep learning methods such as LSTM (Long Short-Term Memory), GRU (Gated Recurrent Unit), GAN (Generative Adversarial Networks), and WGAN-GP (Wasserstein Generative Adversarial Networks with Gradient Penalty) to forecast stock prices. The objective of the study is to evaluate the performance and limitations of these methods and determine their applicability in financial forecasting by comparing them with the existing literature. The study contributes to the existing literature and presents new approaches in this context. Google stock is used in the study, and it includes daily closing price data between 22.03.2018 and 21.03.2023. This dataset is used for deep learning models, with 70% for training and 30% for testing. The study conducts stock price forecasts using LSTM, GRU, GAN, and WGAN-GP deep learning models. According to the findings, the LSTM model demonstrates the best performance, while the GAN model exhibits the second-best performance. The GRU model shows performance after LSTM and GAN, whereas the WGAN-GP model has the lowest performance. In these models, significant gaps started to form between the actual prices and predictions in 2020 due to an unexpected event caused by COVID-19. This indicates that such models may struggle to cope with unexpected events. The study reveals that it is possible to make accurate predictions using deep learning models for stock price forecasting; however, their sensitivity to unexpected events needs improvement. In conclusion, the study specifically found that LSTM and GAN models are applicable for short-term and medium-term forecasts. The study recommends testing deep learning models on broader financial datasets and different stock markets and conducting more comprehensive trials for sensitivity analysis and hyperparameter optimization. Furthermore, it emphasizes the need for research on integrating fundamental and technical analysis data, macroeconomic factors, and market sentiment analysis into deep learning models. In this way, future studies aim to contribute to developing more effective and reliable financial forecasting models.

**KEYWORDS** Deep Learning; LSTM; GRU; GAN; WGAN; Stock Price Prediction

**JEL** C22, C45, C53

*F1B – Macroeconomics · Friday 2 February, 12:00–12:20, Zoom Room Madrid*

# Determinants of The Total Factor Productivity Changes in A Panel of Relevant European Union Banks

Candida Ferreira<sup>1</sup>

<sup>1</sup>ISEG, Portugal

## ABSTRACT

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This study in the first stage uses Data Envelopment Analysis and the results provided by the Malmquist indices to measure the technical, technological, and scale efficiency changes, and the total productivity changes in a panel including 784 relevant banks of all the 27 European Union countries, between 2006 and 2021. In the second stage, the study uses panel dynamic Generalised Method of Moments (GMM) estimations to analyse the influence of some bank choices (in terms of the bank loans, bank deposits and short-term funding, and the off-balance sheet items), and the influence of bank market stability (proxied with the estimated Z-score), of bank market competition (with the estimated Boone indicator), and of the real per capita Gross Domestic Product (GDP) growth on the total factor productivity changes in the considered banks. The results obtained with GMM estimations demonstrate that while bank market competition looks like promoting the banks' total factor productivity change, bank loans, bank deposits and short-term funding, and the off-balance sheet items, as well as the bank market stability and the real per capita GDP growth do not clearly contribute to the banks' total factor productivity changes.

**KEYWORDS** European Union banking sector; Malmquist indices; bank total factor productivity changes; Z-score; Boone indicator

**JEL** C33, D53, F36, G21

*F1B – Macroeconomics · Friday 2 February, 12:20–12:40, Zoom Room Madrid*

# Possible Effects of Global Trends on Turkish Agricultural Products Foreign Trade

Sevgi Sezer<sup>1</sup>

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## ABSTRACT

In the last century, developments in technology, especially in information and communication technologies and telecommunications, have accelerated the globalization of the world, turning the whole world into a small village. In the same period, country borders were eliminated with the establishment of economic integration, especially in the Americas and the European continent. With the rapid spread of liberalization, world trade has also grown significantly. Against these changes and transformations in the world, developing countries have tried to protect themselves and their economies with customs walls in order to protect themselves from the destructive effects of globalization. In this century, despite international agreements such as GATT, the agricultural sector is one of the protected sectors of the countries. II. The understanding of liberalization in foreign trade after the World War could not be valid in the agricultural sector. With a number of practices led by developed countries, countries have imposed tariff and non-tariff barriers on imports of agricultural products in order to protect and develop agricultural production. With the influence of the World Trade Organization, which was later established, trade in agricultural products was tried to be liberalized. The agricultural sector has a special and important place in the Turkish economy. Turkey has entered a trend towards losing its potential to be a self-sufficient country in agricultural production. Exports of agricultural-based industrial products have an important place in Türkiye's exports. It is important to gain competitiveness in the agricultural sector with effective policies and to seriously follow global trends and tendencies during the creation of these policies. Therefore, the aim of this study is to examine the foreign trade of agricultural products in Turkey, to reveal the factors affecting the foreign trade of agricultural products and to make policy recommendations.

**KEYWORDS** Agricultural policies; Foreign trade of agricultural products; Turkish agricultural sector

**JEL** Q14, Q17, Q18

*F1C – Labour · Friday 2 February, 13:00–13:20, Zoom Room Madrid*

# Estimating the value of informal care in European countries

Cristina Vilaplana-Prieto<sup>1</sup>

<sup>1</sup>University of Murcia, Spain

## ABSTRACT

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The provision of informal care has been the traditional mechanism to address the care needs of European populations in need. However, its value goes unaccounted for in long-term care spending as it refers to unpaid care and includes unmonetized costs, which if substituted by the market or community care would result in higher costs to both families and social protection systems. This paper examines the missing care economy, namely the value of informal care drawing on a wellbeing methodology where we can identify the effect of care on wellbeing. We draw on longitudinal data from the SHARE survey retrieving estimates of informal care from several European countries. Drawing on the availability of daughters in the household, we estimate the causal effect of caregiving on wellbeing, and we retrieve an estimate of the magnitude of the care economy of European's Gross Domestic Product (GDP). Our estimates suggest that the short-term compensating surplus (CS) 41.4% of short-term GDP and the long-term accounts for 24.8% of long-term GDP, which is about 9.90% of men's wages and 10.45% of women's wages. However, our estimates vary by country and gender, being 74% of average female's wages in France 74.2% and 61% in Switzerland (61.46%), and 36% of male wages in Spain and 28% in Italy.

**KEYWORDS** informal care; wellbeing methods; the value of time; caregiving; daughters; life satisfaction

**JEL** I18

*F1C – Labour · Friday 2 February, 13:20–13:40, Zoom Room Madrid*

# Human development and inequality: The importance of social expenditure

Ronald Miranda<sup>1</sup>

<sup>1</sup>Instituto de Economía, Uruguay

## ABSTRACT

The Human Development Index (HDI) developed by the United Nations Development Programme (UNDP) is a composite and multidimensional index of a country's economic and human development (UNDP, 2020). The HDI is considered a broader measure of development than the Gross Domestic Product per capita by combining information on health, education, and income of the population. In this sense, the HDI has been a relevant indicator for numerous public debates on national priorities. However, one of the main limitations of the HDI is that it does not consider the distributional dimension, i.e., how a country's achievements in health, education and income are distributed among the population. Therefore, it is possible to have a country with a higher HDI than another, but in which the benefits of development are concentrated in a few sectors of the economy and not in the whole society. Also, it is possible to have a country that improves the HDI suffering at the same time the detriment of the development of broad sectors of society (Foster et al., 2005). Consequently, to measure human development more comprehensively, the UNDP presents the inequality-adjusted HDI. Under conditions of perfect equality in the distribution of achievements, the HDI is equal to the inequality-adjusted HDI, but falls below it in the presence of inequality (in any of its three dimensions: health, education, and income). The UNDP indicates that adjusting the level of the world HDI for inequality would reduce it by 20%. Moreover, it is indicated that countries classified as having a very high level of HDI lose less from inequality than countries with a lower level of HDI (UNDP, 2018). Such a difference between countries reflects the gap in inequality of opportunity in access to health, education, and income disparities. Note that high inequality can have negative consequences for social cohesion and the quality of institutions and policies, which in turn can slow progress in human development (UNDP, 2018). In this sense, the capacity of governments to improve human development is one of the main concerns of society, with public spending on health, education and social protection probably being one of the main instruments to increase economic growth, promoting income equality, reducing poverty and, as a consequence, improving human development and the quality of life of their citizens (Barro, 1991; Chu, 1995; Paliova et al., 2019; Sen, 1999). In this vein, our paper empirically analyses to what extent public social spending affects the loss of human development due to inequality for a broad sample of 82 developed and developing countries during the period 2010 – 2021. Specifically, we focus on the impact of public spending on health, education, and social protection on the loss of the Human Development Index (HDI) and its components (life expectancy, education, and income) due to inequality. To this end, we use panel data analysis to identify the determinants of the loss of human development due to inequality between countries and over time. Our empirical evidence shows the crucial role of social protection expenditure in reducing the loss of human development due to inequality. Additionally, we find that a higher (lower) level of quality of governance is associated with a higher (lower) reduction in loss of human development due to inequality. The results have clear policy implications since they help to identify what changes in the size and composition of public expenditure could reduce the losses in human development of the countries caused by inequality.

KEYWORDS O15; H5; H51; H52; I15; I25

*F1C – Labour · Friday 2 February, 13:40–14:00, Zoom Room Madrid*

# Unemployment Decomposition in Spain for the period 1980-2019: Evolution of Structural Unemployment

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## ABSTRACT

This paper addresses the evolution of high unemployment in Spain between 1980 and 2019, focusing on the evolution of structural unemployment. To do this, it uses an alternative unemployment decomposition method to disaggregate total unemployment into its three main components (frictional, structural and cyclical). This process involves the application of stochastic frontier analysis to disaggregate frictional unemployment from total unemployment. Subsequently, time series filters are used to decompose the resulting unemployment into its structural and cyclical components. To carry out the proposed decomposition of unemployment, it requires homogenization of the series of vacancies as well as retropolation for the series of employment fluctuations, given the lack of data for such a long period. The results of the research reveal the predominant typology of unemployment in Spain, contributing to a better understanding of the persistently high unemployment rates in the country. Furthermore, they offer a solid basis for the design of more effective labor policies, by providing a valuable tool that helps facilitate a deeper understanding of the nature of unemployment in the Spanish labor market. Detecting and disaggregating the nature and evolution of structural unemployment are crucial to addressing this complex phenomenon.

**KEYWORDS** structural; frictional; cyclical unemployment; vacancies

**JEL** J01, J21, J24

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