Report on the outcomes of a Virtual Mobility[1]

Action number: CA19130

Grantee name: Esra KABAKLARLI

Virtual Mobility Details

Title: : The Role of FinTech in Cashless Economy and Green Growth

Start and end date: 27/09/2022 to 06/10/2022

Description of the work carried out during the VM

The main purpose of this is Virtual Mobility Grant to analyze the relationship between cashless economy and green growth within the framework of Fintech. Cashless economy has many tools that provide additional practice opportunities for households, firms and society. From the economic point of view, cashless economy has the advantage of improving financial inclusion by providing low cost for money transfers and its potential for increasing financial literacy. Furthermore, a cashless economy is more beneficial for governments in transforming the economy to registered and enabling them to collect more taxes. Also, private firms can collect data about their customer thanks to cashless transactions.

VMG Stages

1.Analysis of the Relationship Between Green Growth And Cashless Economy

1. Data And Methodology

This VMG outlines the relationship between green growth and cashless economy. In the empirical section, panel data analysis, the impact of cashless economy on green growth will be applied to the selected countries between 2012-2019. This paper examines the relationship between green growth and cashless economy. Panel data analysis will be used to assess the impact of cashless economy on green growth via selected countries between 2012-2019. Argentina, Australia, Brazil, Canada, China, Hong Kong, India, Indonesia, Japan, Korea, Mexico, Russia, Saudi Arabia, Singapore, South Africa, Sweden, Switzerland, Turkey, and United Kingdom. The random effect method will be used in panel data to analyze cashless economy impact on green growth. When the u_i's are supposed random variables and uncorrelated with the X_i variables, most of the method used is the random effects method (Baltagi,1995).

[1] This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

$$Y_{it} = X_{\mathbf{it}}\boldsymbol{\beta} + \mu_i + u_{it} \quad (1)$$

Suppose there is no correlation between X variables and μ, random effects estimator is consistent (Wooldridge,2002). Then, the random effect method will be used in panel data to analyze cashless economy impact on green growth.

***Table 1**. Indicators in model*

Variables	Definitions
GDP	Real GDP per capita
CO_2	Production-based CO_2 productivity, GDP per unit of energy-related CO2 emissions
CARD	The number of cards per inhabitant includes a cash function, debit function, and credit function
CASH	Banknotes and coins in circulation Value as a percentage of narrow money

$$GDP_{it} = CARD_{\mathbf{it}}\boldsymbol{\beta} + CASH_{\mathbf{it}}\boldsymbol{\beta} + CO_2{}_{\mathbf{it}}\boldsymbol{\beta} + \mu_i + u_{it} \quad (2)$$

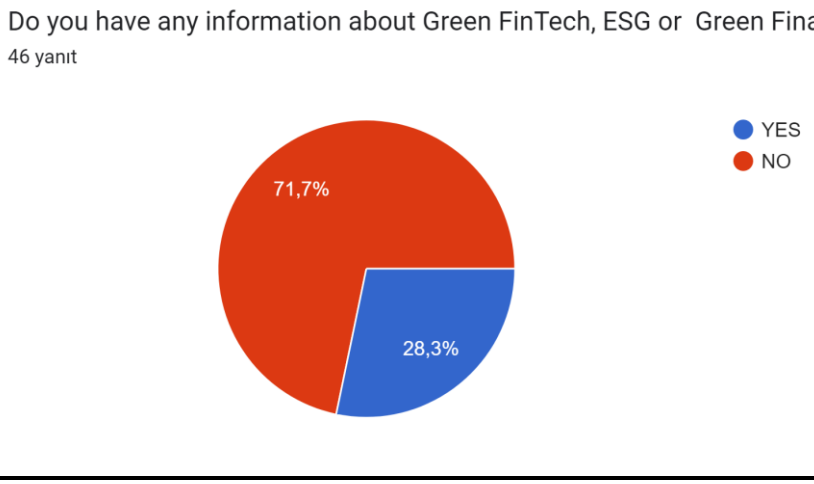
Banknotes and coins in circulation and the number of credit cards per inhabitant will be independent variables in panel data analysis as a proxy of cashless economy. Green growth indicators Production-based CO_2 productivity will be independent variables as well. GDP per capita will be used as the dependent variable in panel data model

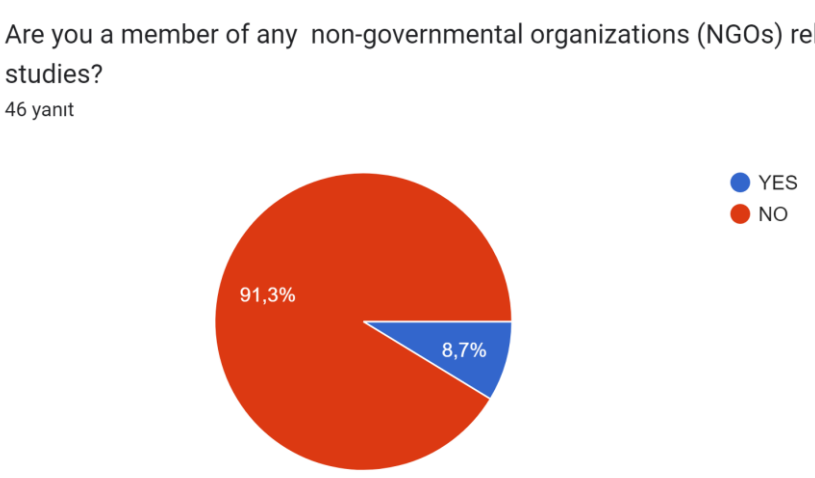
In the study, random and fixed effects panel data models were estimated with dependent and independent variables definitions summarized in table 1. According to the alternative hypothesis, the two models are compared using the Hausman test; the random effects model is consistent if there is no unit effect correlation with the explanatory variables. The fixed effects panel data application considers the natural, geographical and population differences among the countries covered in the model. In contrast, the change in the time dimension of these differences is ignored. In addition, the estimators of the random effects model are biased and inconsistent when unobserved within-group effects are correlated with explanatory variables (Asteriou

and Hall, 2021). The Hausman test, summarized below, was applied to choose between the random or fixed effects model in panel data analysis.

In this study, panel data analysis is applied to assess the impact of cashless economy and CO2 productivity on green growth by selected countries between 2012-2019. In summary, we might say that cashless economy and CO2 productivity positively affect economic growth and thus promotes green economic growth. These empirical findings have very correlated the facts that producing coins and paper money leads to CO_2 emissions. Cashless economy is better for the environment, and people will not need to carry cash and coins in their wallets when they prefer digital payments. Covid 19 changed people's payment behaviors. During the Covid 19, people preferred contactless payment to avoid human contact. Amount of digital and cashless payments has increased during the pandemic in many countries.

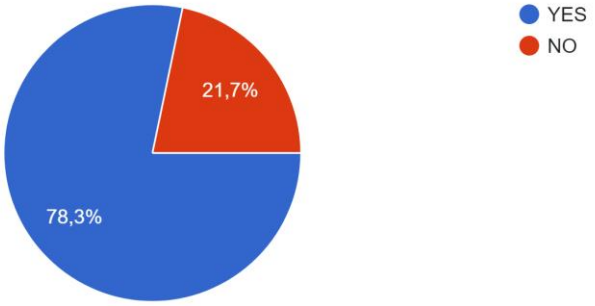
2. At the second stage of the VMG, the survey on environmental awareness was carried out with University students/staff to understand their level of environmental awareness, interest, and attitude. This survey involved participants from CA19130 countries Egypt, Croatia, Albania, Iceland, Kosova, France, and Turkey (beginning August 2022). 2. The questionnaires were distributed involving participants from selected CA19130 countries FRANCE (Galena. Pisoni); ALBANIA (Rezarta. Perri); KOSOVO (Albulena. Shala). EGYPT (Fatma Sayed Gadelrab), CROATIA (Ana Ivanišević Hernaus), and ICELAND (Hanna Kristín Skaftadóttir), attempted to be a micro-study that will help us better understand their awareness about the impact of their activities on the environment





Do you have any idea about a sustainable environment?

46 yanıt



Do you think there is a correlation between global warming and environmental degration?

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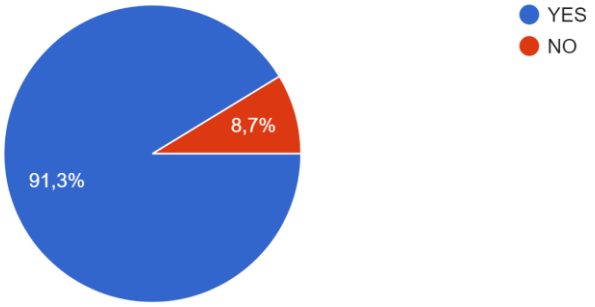

Are you aware of EU (European Union) environmental policies?

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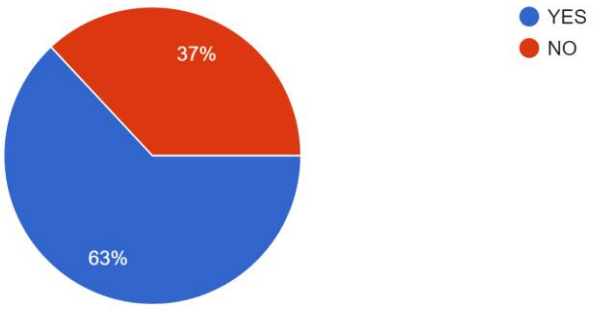

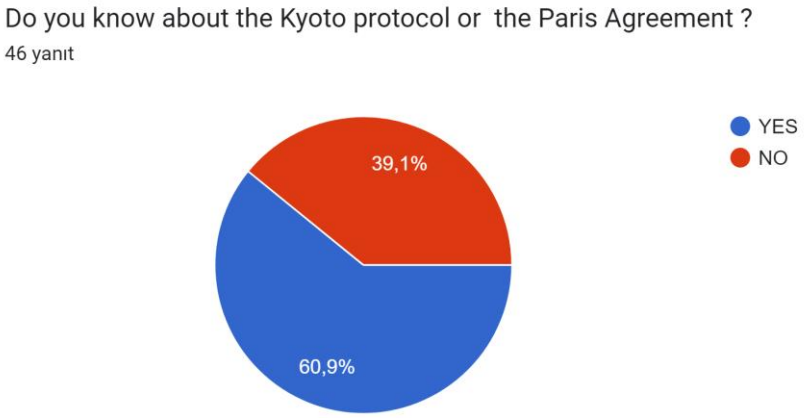

Short Summary of Survey Results

71.7% of 46 students/staff /COST members participating in the survey state that they do not have information about the Green FinTech ,ESG or Green Finance.The rate of those who do is just 28.3%. Regarding the NGOs membership related to environmental studies, 91.3% of those surveyed participants are not NGOs. Only 8.7 % of those surveyed participants are NGO members. 21.7% of the participants of the survey do not have any idea about the sustainable environment. 91.3% think there is a correlation between global warming and environmental degradation. 39.1% of them do not have information about the Kyoto Protocol. Those aware of EU (European Union) environmental policies are at % 37.

3. Recording Podcast

A podcast about "The Role of FinTech in Cashless Economy and Green Growth" as a series of podcasts CA19130, was recorded with Dr. Vasile Strat.

The podcast link is : **https://lnkd.in/diYJ6NPp**

4. Presentation of preliminary results at Women in FinTech Diversity Conference

Women in FinTech diversity Conference 21-22 September 2022 I had a chance to discuss the VMG topic "The Role of FinTech in Cashless Economy and Green Growth" in this meeting.

Description of the VM main achievements and planned follow-up activities

1. Based on VMG survey findings, it can be argued that there is quite a mixed picture. Results from the survey generally reveal that a significantly higher proportion of participants have a moderate awareness level on environmental issues. Our planned goal is to apply to the larger community of COST 19130 action members. Therefore, it becomes clear that this project has very good ground to show the urgent need for action on environmental problems to different stakeholders and to locate environmental awareness and consciousness to the heart of the COST action and thereby raise it among young people based on intergenerational perspective.

2. I am planning to publish Virtual Mobility Grant project analysis results in the long term (6 months). This Project is intended to be used as a draft for a working paper or an academic article aimed to be published **in an academic indexed journal (Digital Finance Journal)**

3. Successful practices and the most important lessons learned

I have shared the outputs of Virtual Mobility Grant **with İstanbul Blockchain Women Organization** (255 member including cyrpto trader, NFT artist and blockchain expert) . This organization wants to collaborate with Cost Action 19130 FinTech and AI members to produce social projects that can be designed positively in our society's production technology and blockchain technology and to increase the employment of information software from these applications, from more ground projects in the field of production.

4. According to VMG empirical results

In this study, panel data analysis is applied to assess the impact of cashless economy and CO2 productivity on green growth by selected countries between 2012-2019. In summary, we might say that cashless economy and CO2 productivity positively affect economic growth and thus promotes green economic growth. These empirical findings correlate the fact that producing coins and paper money leads to CO_2 emissions. Cashless economy is better for the environment, and people will not need to carry cash and coins in their wallets when they prefer digital payments. Covid 19 changed people's payment behaviors. During the Covid 19, people chose contactless payment to avoid human contact. Amount of digital and cashless payments has increased during the pandemic in many countries.

Description and assessment of whether the VM achieved its planned goals and expected outcomes, including specific contributions to Action objectives and deliverables or publications resulting from the VM. Agreed plans for future follow-up collaborations shall also be described in this section.

(max. 500 words)

Grantee enters max 500 word summary here.