

DIGITAL TRANSFORMATION OF GROSS DOMESTIC PRODUCT

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Abstract: Digital technologies introduced by the Industry 4.0 has brought significant changes to the private and public sectors of the world economy. Enterprises are challenged to capitalize on continuing advancement of digital innovation, governments are facing changes at macroeconomic level. The study is determined by the increasing confusion between measurements of gross domestic product (GDP) measurement and digital economy. Based on the literature review this paper aims to analyse how digital transformation affects GDP statistics. The paper is among a few studies, which concerns correlations between GDP and level of national digital transformation. The study sets out areas for future research of digital innovation adoption influence on the main macroeconomics indicator.

Keywords: Digital transformation, GDP, digital economy

Introduction

Digital technologies have drastically affected global economy in recent years, disruptive innovations transform production processes, business models, communication channels, culture and strategies of organizations, while creating new value and significant benefits for society at large. Digital economy is the share of total economic result attained from digital inputs, such as equipment, skills and products. According to Accenture digital economy, involving some form of digital skills and digital capital, represents 22.5 percent of the nowadays global economy, [2] digital's ability to unlock value is far from being fully exploited. Head of Future of Digital Economy and Society Member of the Executive Committee of World Economic Forum O'Halloran argues, that by year 2022, 60% of global GDP will be digitized. [7] Thus it is crucial to be able to measure economic benefit of digital transformation (DX), not to exclude it when analyzing national welfare based on GDP rate. The impacts of digitalization on economic indicators have not been quantitatively investigated in depth among scientific literature.

The research started from retrieving preceding studies from databases Scopus, IEEE Xplore Digital Library and EBSCO using Boolean operators (AND; OR) it resulted in the automated search with keywords: "digital transformation" OR "digitalization" AND "GDP" OR "Gross Domestic Product", which are believed to be the major terms of the research topic. The search was limited to articles only in English and published in academic journals. Only EBSCO database had 35 articles with the selected keywords, those were sorted through a manual process to select the relevant for the study. Only six articles were chosen as pertinent.

Digital transformation of GDP. Digital transformation is not just integration of information technologies into business processes; it reshapes the entirely organization structure, its culture [6] and management concepts to meet stakeholders' interests [8]. Digital transformation is performed in integration of digital technology into business processes and results in creation of a new or improved value for a customer. Information and Communication technologies are boosters for employment and economy development nowadays, but according to Ljubisa it has not been stated clear if they influence GDP [3]. Watanabe at al. argues that industrially developed countries face ghost productivity decrease, which is seen as productivity paradox in the digital economy [9]. Scope of GDP may not consider digitally provided services, when attempts are taken to evaluate price and quality of digital products challenges arise, which means that there are aspects not captured in GDP statistics. This in turn creates a broader misleading when evaluating national development progress.

A variety of indexes of digital transformation have been developed by various organizations reflecting different by digitalization affected areas of economy. All of them represent the information technology infrastructure and level of people's access to it. [4] One of the official indexes of digitization is the Digital Economy and Society Index (DESI) created by the European Commission. DESI has been ranking EU member states with respect to their digital performance since 2014.

Scholars argue that exist studies that confirm high GDP among with high investment in information technology. [1] Mičić argues that technologically developed countries of Europe also have high GDP per capita. [5] Although it is not proven that increase in GDP in those countries is not provoked by other economic processes and public policies. The Organization for Economic Cooperation and Development (OECD) has raised the question "If GDP and productivity measures up to the challenges of the digital economy?" [9] According to scholars, elements of digital economy that challenge measurement of GDP is mismeasurement of innovative information technology price and value of digital services.

Conclusion. Innovative technologies have significantly altered the economic world. For economists it created a new challenge. The main goal of the paper was to find if for Digitalization or Digital Transformation affect GDP measurement. It is undoubtedly digitization and following it digitalization has a direct and indirect effect on the economy. First, digital technologies may contribute to creation of innovation, secondly, they are drivers of digital products and services, which sometimes may be hard to evaluate. The vague understanding of the terms, no clear connection between digital innovations and the economy, the lack of scientific research of the topic create a need for further study of the topic in order to develop a comprehensive uncaptured GDP measurement.

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ОСНОВНЫЕ ТРЕНДЫ В УКРАИНСКОМ АГРОПРОМЫШЛЕННОМ КОМПЛЕКСЕ

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Резюме - представлен анализ состояния в АПК Украины, который позволил дать оценку и выявить негативные тренды, которые сопровождают развитие отрасли. Определены основные тренды развития, влияющие на динамику статистических индикаторов предприятий АПК. Определены ключевые проблемы и направления повышения эффективности функционирования сельскохозяйственных предприятий. Обосновано, что в существующих экономических условиях хозяйствования, предприятиям АПК необходима активная финансовая поддержка государства для повышения рентабельности производства в животноводстве и растениеводстве.

Ключевые слова: производство, продукция, сельское хозяйство, фермерские хозяйства.

Введение. Сельское хозяйство и пищевая промышленность Украины играют важную роль на национальном и международном уровне; здесь занято 23% населения и используется 71% земельных площадей – 42,8 млн га. В то же время корпоративный сектор выпускает основную долю экспортной продукции. В стране есть 152 предприятия с минимальной площадью 10000 га; больше хозяйств имеет площадь 530 000 га. Наша страна занимает лидирующие позиции по экспорту и производству подсолнечника во всем мире. Украинские аграрии выращивают 11,2 млн тонн подсолнечника. Экспорт подсолнечного масла составляет 3,3 млн тонн в год. Ключевые позиции нашей страны на международном рынке продовольствия такие: экспорт зерновых и орехов – вторая позиция; экспорт рапса, а также производство и экспорт ячменя – третья; экспорт муки – седьмая соответственно. Сельскохозяйственная специализация обуславливается в большей мере строением фермерских хозяйств (рисунок 1).

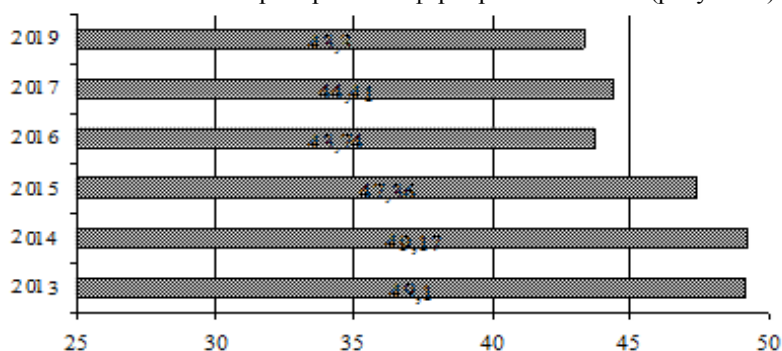


Рисунок 1 - Количество фермерских хозяйств в Украине, 2013-2019 гг., тыс. человек

Источник: разработка на основании [1].

Очень затратные культуры (картофель, фрукты, овощи), а также молоко и мясо производят подсобные хозяйства в то время, как ориентированные на экспорт семена масличных культур и зерновые культуры, производятся большими корпоративными фермерскими хозяйствами [2]. В производстве сельскохозяйственных культур сегодня преобладает производство картофеля, масличных культур и зерновых. Заметно возросла привлекательность для аграриев производства молока и мяса благодаря растущему спросу на внутреннем рынке. Однако, несмотря на отмеченное, тренд роста неоднозначный.