Employment and Economic Growth

Subjects: Economics

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Based on the Cobb–Douglas production function, researchers developed an employment demand model to find the employment elasticity with respect to economic growth using working hours and population as explanatory variables.

employment   economic growth   jobless growth

1. Introduction

The phenomenon of jobless growth has been extensively discussed and analyzed in many developed countries since the early 1990s. So, the word 'jobless growth' gained more interest in examining the relationship between employment and GDP growth after the 1991 global recession when employment recoveries in many countries, especially in the developed countries, were found to be slower than expected. As documented in Altman's [1] paper, jobless growth can be defined in two broad ways. First, "*jobless growth may refer to a situation whereby the overall economy is growing but the absolute employment level is stagnant or falling, rendering near zero or negative employment growth. Secondly, jobless growth may be used to describe a situation whereby the overall economy is growing while the rate of unemployment is rising*" (Haider [2] (pp. 1–2)).

So according to these definitions, if the overall economy is growing, on the one hand, the employment rate is stagnant or falling (low employment elasticity), or the unemployment rate is rising (Okun's Law), then the situation is called jobless growth. The present study discusses and analyzes the first situation (employment elasticity) in developed and developing countries. Estimating the employment elasticity with respect to GDP growth provides a shred of evidence on the presence or absence of jobless growth using the economic framework. So, whenever a country emerges from a recession, people's expectations are that employment will grow when the economy starts to expand—such as in recent times the COVID-19 pandemic when will completely be over—but if the link between employment and economic growth is weak, then jobs do not grow immediately.

Improving material well-being and the quality of people's lives should be the key objective of any economic policy and it is generally thought that it can be achieved with economic growth which will automatically guarantee that income-generating employment opportunities will increase. This does not seem to be the case in most of the developing economies. Although developing countries' economies have experienced positive real economic growth over the last two decades, they appear to have been unable to create sufficient employment opportunities for its growing population. The result is the unemployment rate is still increasing or the employment rate is still decreasing. A possible reason for this jobless growth is that in many developing countries, growth-led

macroeconomic policies often cause a shortfall in stimulating productive employment and a frequent need for policy redirection or target adjustments. So, it is a question of paramount importance that researchers should look at the relationship between employment and economic growth around the globe, and especially for developed and developing countries, to formulate an employment-oriented growth-oriented policy according to the links found in the analysis.

2. Employment and Economic Growth

The employment and GDP growth relationship has been extensively analyzed in developed and developing countries in the early 1990s through the employment elasticity, based on Solow [3] aggregate production function and Okun's law [4], and the U-shaped hypothesis [5]. But there is a paucity of studies in the literature that used the labour demand models as most of them used labour supply models, such as Gronau's model [6] and Becker's model [7], focusing on the determinants of labour supply. At the end of the global recession of 1991, investigating the relationship between employment and economic growth gained more interest when employment recoveries in many developed countries were found to be slower than those observed at the end of the last recessions.

After an empirical investigation of the sustainable relationship between employment and economic growth, the study explores a set of indicators that may determine the strength of this relationship in the context of developed and developing countries as many countries around the world are looking for sustainable development to achieve their desired employment targets. Decent work and economic growth is one of the sustainable development goals (SDGs) which highlights the importance of decent employment with sustainable development. While there are two fundamental elements of sustainable development, the first one is development and the other one is sustainability, as pointed out by Klarin [8]. However, Sharpely [9] argued that the terms "Development and Sustainability" could be in juxtaposition and have counterproductive effects, and according to neoclassical economists (Lele [10]), there is no contradiction between both of them, while others suggest that there is a marriage between both of them and argued that they cannot be divorce from each other as there is no development without sustainability or vice versa.

Two types of studies were found from the earlier literature; one type of literature focused on cross-country analysis, while the other one focused on country-specific analysis. Earlier studies suggest that two strands of literature are found in the context of the employment and economic growth relationship. One strand of the literature suggested that employment and economic growth are positively related while the other suggests that employment and economic growth are negatively related. For example, Padalino and Vivarelli [11] found a positive relationship between employment and GDP for the G-7 countries and determine the jobless growth through estimating the employment elasticities. This study also found that the phenomenon of jobless growth was observed in most of the European countries while, on the other hand, North American economies experienced employment intensive growth. Similar results were found in G-7 countries [12][13] excluding Canada and Sweden. They found that employment elasticity was negative in the case of Italy and Sweden, indicating jobless growth instead of job-generating growth.

Few studies focused on the sustainable relationship between employment and GDP. For example, Dopke [14] estimated the short-run and long-run relationship between employment and economic growth for the 18 OECD countries over the period of 1970–1999 using cointegration and error correction techniques. He found mixed results for cointegration and, in a few countries, the impact of real GDP on employment was surprisingly low. Verme [15] noticed that, even though sustainable growth was observed since 1997 in the seven low-income countries that are included in the Commonwealth of Independent States (CIS), these countries experienced jobless growth. Sengenberger [16] investigated the phenomenon of jobless growth in South-East European (SEE) countries and found that employment elasticity was in the normal range (0.24) for Moldova, Greece, Bulgaria, Albania, and Croatia while negative employment elasticity (−0.19) was found for the overall sample period and to be small in magnitude (0.01) during 1999–2003 for Romania and Turkey. Before Sengenberger [16], some studies on Central and Eastern Europe (CEE) had also shown a low response of employment to economic growth [17][18]. They found that the CEE region exhibited a low and decreasing employment elasticity of economic growth after 1991. Marelli and Signorelli [19] found a negative employment elasticity for the European Union (EU) region. It is concluded from the above-developed countries' studies that, during the early 1990s, many countries around the world, especially countries from the OECD, suffered a profound recession. In most of them, economic recovery was linked to slow job growth (see, for example, OECD, (pp. 53–55, [20])), while Gorg [21] estimated the long-run employment elasticity for average OECD country to be around 0.8. This triggered many economists to examine whether economic recoveries in individual countries were jobless. But only a few studies are available for developing countries, and most studies are conducted on a single country.

The study conducted by Fofana [22] in Cote d'Ivoire found a negative relationship between employment and output growth using a production function approach, while Islam [23][24] found a weak relationship between employment and GDP growth in developing countries, mostly from Asia and Africa, during the 1990s compared to the 1980s. However, in some countries, he found the phenomenon of jobless growth where positive output growth is linked with zero or negative employment growth, thus indicating jobless growth in its precise meaning. Haider [2] also estimated employment elasticity with respect to GDP in the case of Pakistan using the ordinary least square method over the time period from 1973 to 2008, and a very weak relationship between employment and GDP growth was found (0.26) while, during the periods of recovery, the magnitude of employment elasticity further declined to 0.12. Another study conducted in a developing country (Botswana) in Africa, investigated the relationship between employment and GDP growth over the period of 1990 to 2008 and concluded that employment intensity was very weak, and this may lead to the possibility of jobless growth at the sector level [25]. Similar results were found in the study conducted by Leshoro [26], which showed a negative relationship between employment and GDP growth in the case of Botswana. However, he also found a very weak employment elasticity at the sectoral level. The study conducted by Crivelli et al. [27] on the different income levels and regions to find out the employment elasticities found that the employment elasticity for the low-income to middle-income countries varies between 0.02 and 0.10; for the upper-middle-income countries it is 0.18 while, for the high-income countries, the employment elasticity varies between 0.46 and 0.49. A report compiled by the UNCTAD [28] showed that, in most of the least developed countries, the employment elasticity declined over time between 2004 and 2008 compared to 1996–2000. Recently, a similar study conducted by the International Labour Organization (ILO [29])

found that the employment elasticity decreased over time between 2008 and 2018, which indicates that the GDP growth rate has had little impact on employment growth in recent years.

One of the more comprehensive cross-country studies conducted by Kapsos [30] for the International Labour Organization (ILO), using data on 139 countries, identified that global employment intensity of growth declined from 0.39 (1995–1999) to 0.30 (1999–2003). Japan and Western Europe showed a similar trend while Middle East North Africa (MENA) countries found the highest (0.74) employment elasticities in the world; however, a similar decline was observed during the same period. Another study conducted by Crivelli et al. [27] for IMF calculated the employment output elasticities for 167 countries and found employment elasticity in the range of 0 and 1, with the highest in the developed countries. On the other hand, Ball et al. [31] concluded that the unemployment rate is less responsive to GDP growth in developing countries compared to developed countries based on Okun's coefficient using data on 71 countries, and similar results were found by Slimane [32]. A study conducted by the African Development Bank [33] stated that the relationship between unemployment and growth varies in magnitude across countries and time. A similar study conducted by Ghazali and Mouelhi [34] for Tunisia at the aggregate level, found that employment elasticity declined from 0.61 (1980–1989) to 0.48 (2000–2012). A recent study conducted by Bhat et al. [35] found that the employment elasticity of GDP growth in Kazakhstan had declined at an aggregate level based on the rolling regression method using data from 1996 to 2019. In addition, they also identified that population growth was positively related to employment growth, and the coefficient of population growth was very low (0.14), which is in line with the theoretical expectation that as demand for labour increases, more employment is created but at lower wages. On the other hand, Haider [2] estimated the employment demand model using the Cobb–Douglas production function, including population as a control variable to disentangle the effect of GDP from population growth on employment which can affect employment in Pakistan where the high population growth phenomenon is well known and where the population variable has its own effect on employment rather than its effect through GDP per capita. He found a negative relationship between employment and population growth (−0.617) which asserts that the lower productivity growth and more employment-intensive growth were results of a more rapidly expanding labour supply in developing countries like Pakistan. The above short literature review deduced that most of the studies analyzed the employment elasticities in the developed countries, such as for G-7 countries, OECD countries, CEE, and many other developed regions after the 1990s recession, that provide some broad strokes towards an analytical and methodological framework for the analysis of sustainable development, as pointed out by Manioudis and Meramveliotakis [36]. On the other hand, a very limited number of studies were found on developing countries. Most of them analyze a single country, and just a few focus on groups of developed and developing countries. Only a few studies have estimated employment output elasticities using econometrics models and mostly based on the simple point or arc elasticity which are based on the change in employment due to change in the GDP and do not account for any control variables that may affect the link between the two variables over time that leads to an omitted variable bias in these studies.

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