

Ansah, Martin Owusu; Coffie, Rosemary; Azinga, Samuel Awuni; Nimo, Michael

Article

Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach

Cogent Economics & Finance

Provided in Cooperation with:

Taylor & Francis Group

Suggested Citation: Ansah, Martin Owusu; Coffie, Rosemary; Azinga, Samuel Awuni; Nimo, Michael (2021) : Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 9, Iss. 1, pp. 1-16,
<https://doi.org/10.1080/23322039.2021.1911766>

This Version is available at:

<https://hdl.handle.net/10419/270065>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach

Martin Owusu Ansah, Rosemary Boateng Coffie, Samuel Awuni Azinga & Michael Nimo |

To cite this article: Martin Owusu Ansah, Rosemary Boateng Coffie, Samuel Awuni Azinga & Michael Nimo | (2021) Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach, Cogent Economics & Finance, 9:1, 1911766, DOI: [10.1080/23322039.2021.1911766](https://doi.org/10.1080/23322039.2021.1911766)

To link to this article: <https://doi.org/10.1080/23322039.2021.1911766>



© 2021 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.



Published online: 15 Apr 2021.



Submit your article to this journal [↗](#)



Article views: 4474



View related articles [↗](#)



View Crossmark data [↗](#)



Received: 04 February 2020
Accepted: 29 March 2021

*Corresponding author: Martin Owusu Ansah, School of Business Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
E-mail: m.owusuansah97@gmail.com

Reviewing editor:
Christian Nsiah, School of Business,
Baldwin Wallace University, United States

Additional information is available at
the end of the article

GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach

Martin Owusu Ansah^{1*}, Rosemary Boateng Coffie², Samuel Awuni Azinga¹ and Michael Nimo³

Abstract: The paper investigated the nexus between Ghana's single spine pay policy and unemployment. An exploratory sequential mixed design method was employed to collect data from 413 business owners and managers, which comprised manufacturing companies, service industries, wholesalers as well as small and medium-sized enterprises. The Statistical Package for Social Sciences (SPSS) 24.0 as well as the structural equation modelling (SEM) statistical technique with PLS 3.0 was used to determine the hypothesized relationships. It was observed that single spine pay policy had a significant effect on unemployment. The policy had a very high influence on cyclical unemployment, followed by frictional unemployment as well as the structural unemployment in that order. It basically uncovered evidence that the introduction of the policy contributed to the unemployment situation in the country. The study contributes to the ongoing research in examining the linkage between single spine pay policy and unemployment. It also adds to the existing literature on the measurement of unemployment as a "multidimensional construct" instead of the conventional "unidimensional construct" measurement. The strategic implication of the result is discussed in the paper.

ABOUT THE AUTHOR

Martin Owusu Ansah is a lecturer in the Department of Marketing and Corporate Strategy at the Kwame Nkrumah University of Science and Technology, School of Business, Kumasi, Ghana. He holds a PhD in Business Science—specializing in Marketing from the University of the Witwatersrand, South Africa. Martin was a lecturer; a Research facilitator and a Research fellow at the University of Johannesburg; Rhodes University and the Davinci Institute of Technology Management respectively. He was previously associated with the Research Excellence Consulting, a research firm at Sandton city in the Gauteng Province of South Africa. He has extensively worked in the areas of Data Science, Marketing Analytics and Business/Marketing Intelligence in many African countries. His research interest is in the area of Cross-cultural surveys, Social Marketing, Higher Educational Marketing as well as Health Marketing. He has several research papers in refereed journals in these fields of interest.

PUBLIC INTEREST STATEMENT

Equal pay means that all workers have the right to receive equal wage for work of equal worth. Though the concept is forthright in the realm of short-term benefits through the climate of public opinion in developing economies. The long-term consequences of equal pay have resulted in too much assumption on their benefits, while too little has been scrutinised on their opposing effects. This study is one of the principal studies concentrating on the impact of the single spine pay policy on unemployment situation in Ghana. The study revealed that the introduction of the single spine pay policy contributed to the unemployment situation in Ghana. The policy that sought to lessen anomalies in the pay structure, instead contributed in a weighty way towards the joblessness situation in the country.

Subjects: Social Policy; Employment & Unemployment; Development Economics

Keywords: Ghana; single spine pay policy; unemployment; partial least square modelling

1. Introduction

Pay policy reform has become an essential activity in public service administration throughout the world over the past two decades. The idea is regularly to motivate employees, increase in productivity and the retention of workforce (Freeman, 1979; Lausev, 2014). The reforms are mostly undertaken by governments with the objective of refining public sector service salaries to rectify the disparities and inequalities in the pay system (Aliu & Fuesini, 2014). The Government of Ghana in 2009 put forth the single spine pay policy (SSPP) as a proposal to reinstate equity and transparency in public service pay administration. The policy was implemented in 2010 to regulate the payment of public service workers, especially those under Article 190 of the 1992 Constitution of the Republic of Ghana, over a five-year period.

As part of the measures in addressing those disparities and inequalities, various commissions and committees have been constituted and applied with various terms of reference from the days of the colonial era. Examples of such committee and commissions include the Guggisberg Appointed Committee (1927); Harragin Commission (1945–1946); Mills–Odoi (Republic of Ghana, 1967); Issifu Ali (Republic of Ghana, 1973); Justice Azu–Crabbe (1979–1983); Gyampoh (1992–1993) as well as the Ghana Universal Salary Structure (GUSS) in 1999. It was in 2009 that the Government admitted that the SSPP was going to be pertinent to the public service institutions as specified in the 1992 Constitution. The SSPP policy categorised all public workers under the policy with the exception of the few specific institutions (GOG, 2009). Included in the SSPP were Civil Service, the Judicial Service, the Audit Service, the Ghana Education Service, the Ghana Health Service, the Parliamentary Service, the National Fire Service, the Customs, the Exercise and Preventive Service, the Internal Revenue Service, the Local Government Service, the Police Service, the Prisons Service while the Ghana Armed Forces was excluded based on the conditions of service 71 of the 1992 Constitution.

Notwithstanding the remarkable attempts made by successive governments in correcting the distortions in the existing pay structure, complaints of income inequality—resulting in frequent demonstrations, unions’ strikes, coupled with issues of the unemployment remained and constituted a threat to the policy. Oppenheimer and Spicer (2011) observed that Ghana like many other African countries has a high unemployment/underemployment rate. Although employment and job-creation policies have often been part of government programmes, political and social discourse, the demand for employment has remained heightened as the engagement rate of people has been extraordinarily low (World Bank., 2016b). Creating employment opportunities therefore remains one of the challenges for many policy-makers in Africa (ILO (International Labour Organisation), 2014:70; Garg, 2015). Employment elevations and worker efficiency are normally low, replicating a trend, which is consistent with the sub-region’s social and human development challenges (Garg, 2015:3).

According to Nkrumah (Nkrumah, 1980:5), many government policy implementations in Ghana tend to fail due to pauses in direction and problems in the plan documentation. Sakyi (2008a) also traced some of the challenges that affected the implementation of civil service reform in Ghana to lack of political will, institutional resource incapacity coupled with conflicts between various agencies in the process of implementation. Kiragu and Mukandala (2003) observed that many of the public service reform failures mostly emanate from fiscal deficits towards their implementation. Mpere (2015) posited that the implementation of the various pay structures had suffered several setbacks in their tryouts even though they were well-crafted policies. According to the World Bank report in 2012 titled “The Republic of Ghana Selected Policy Issues,” Ghana had no fundamental guidelines for the execution of many projects in general as well as in the area of controlling cost. Schiavo–Campo

also observed in their study as revealed by Kiragu and Mukandala (2003) that realizations in pay reform based on the common pay and employment have been limited, weak and transitory.

Preceding studies had found that implementing a wage policy increases salaries in the public sector (Hasnain et al., 2012); however, their effects on output and other areas have not been considered. According to Lucifora & Origo (2015), wage policies tend to increase workers' salaries but the silent nature on how such policies correct wage inconsistencies in other sectors ought to be investigated into. Amazingly enough, not much has been done on the examination of the impact of wage policies on the public-private sector wage gaps, particularly in developing nations (Duodu, 2019). Many of the studies had examined the effects of wage policies on union strikes, employee satisfaction as well as the effects on the labour markets as a whole, with limited studies on wage and unemployment relationship. There are limited studies on the SSPP in Ghana—especially its effects on unemployment; the measurement of unemployment as a unidimensional construct instead of a multidimensional construct. There are also limited studies of this kind that employed exploratory sequential mixed method as well as the excessive use of secondary data other than a primary data or a combination of both for forecasting purposes in academic and policy research. The gaps in the extant literature regarding the expressed issues above actuated the current study.

This study's primary objective is to examine the impact of the SSPP on unemployment, as a multidimensional construct among Ghanaians and to draw pertinent lessons for policy actions that will help minimize policies long-term effects on the economy. A reflective question this study seeks to address is: How is the SSPP affecting the various categories of unemployment, namely: cyclical, frictional and structural.

The rest of the paper is structured as follows: a review of the related literature review; presentation of the methodological issues surrounding the study; presentation and discussion of results while the last section presented the conclusion, contribution; policy implications of the study as well as the limitations of the study coupled with the avenue for future research.

2. Hypotheses statement of the model

H1: There is a significant positive relationship between the SSPP on Frictional unemployment in Ghana.

H2: There is a significant positive relationship between the SSPP on Cyclical unemployment in Ghana.

H3: There is a significant positive relationship between the SSPP on Structural unemployment in Ghana.

3. Literature review

3.1. Theoretical literature

The Political Business Cycle model (PBC) was first introduced in the economic theory by the Polish economist Michał Kalecki in 1943, in his paper "Political Aspects of Full Employment." The theory was based on the supposition that individual economic interest relied on both the domain of political behavior and the dynamics of a comprehensive economy. The theory was later formalized by William Nordhaus, who observed it as a critical outline that clarified the foundation behind the influence of macroeconomic variables on purely political considerations in his paper "The political business cycle" (Nordhaus, 1975).

The theory observed that governments are driven by private interest and care only about their re-election projections. According to Dubois (2016), as long as electorates are concerned about unemployment, the incumbent advances the likelihood of being re-elected by introducing policies that the unemployment rate declines just before elections. Downs's (Downs, 1957, p. 28) observed that "many people assume that governments act uniquely in order to attain the income, prestige, and power which come from being in office." Downs (Downs, 1957, p. 176) observed that "by means of economic and other actions, governments try to employ both present and future utility pay-offs to voters in a way that will win their votes." According to Tufte (1978, p. 9), "the economic policy instruments involved must be easy to start-up quickly and must yield clear and immediate economic benefits to a large number of voters." An upsurge in real disposable income appears to be the virtuous candidate (Dubois, 2016). According to Tiganas and Claudiu (Tiganas & Peptine, 2012), Nordhaus study on PBC theory adopted an egalitarian system which was aimed at tackling the problems of unevenness in economies or solving the problems of employment and unemployment. They further revealed that such occurrences were correlated with the voting behavior.

In the current study, the PBC theory becomes useful in understanding the rationale behind governments' policies on their supposed intentions rather than on their long-run consequences. The stimulation of the economy before elections with the sole aim of relying on intentions in presenting pleasures such as the creation of an egalitarian ideology in the pay structure within the public sector is theoretically seen as a political decision where the long-run effects of the same policy were not considered thoroughly. The authors then posit that embracing political policies by their intentions in the short run without considering their long-term effects cannot be a real threat to political business cycle theory.

3.2. Empirical literature

3.2.1. Single spine pay structure

The single spine salary structure seeks to place jobs onto a mutual structure which was put in grade levels and in steps (Cavalcanti, 2009). The objective of the scheme was to reduce pay discrepancies within the public sector by putting all jobs onto a common level. The single spine concentrated only on the base pay. Remunerations that were not included in the base pay was made in the form of market premium to highly skilled workers. The premium included commissions and allowances specific to some staff categories. Workers in public corporations other than those setup as commercial ventures as well as public services established by the constitution and all other public services such as parliament may by law prescribe also be included in the SSSS (GWP, 2009).

Those excluded from the structure were the military and the public officials covered by the Article 71 of the 1992 Constitution of Ghana. Those public office holders include the President, the Vice President, the Chairman and Members of Council of State, Ministers of State and their Deputies, the Speaker and Deputy Speakers and Members of Parliament, the Chief Justice and other justices of the Superior Court of Judiciary, the Chairman and Deputy Chairman of the Electoral Commission and others (GWP, 2009).

3.2.2. Frictional unemployment

Frictional unemployment was defined by Swanepoel and Van Zyl (Swanepoel & Van Zyl, 1999:263) as a situation where people move between jobs after leaving their job, which according to Janoski et al. (Janoski et al., 2014:7), the employers and the employees more or less struggle to find each other in weeks or months. The issue of employees leaving their jobs and moving between jobs is known as frictional unemployment that will always be there, irrespective of how the economy is performing (Mcconnell et al., 2009; AEO (African Economic Outlook), 2012; Lindbeck, 2015:738). In this study, frictional unemployment was defined in accordance with the view of Swanepoel and

Van Zyl (Swanepoel & Van Zyl, 1999:263) as a situation where people become unemployed because they are looking for new and better jobs than the previous one. Frictional unemployment is very common in Ghana. This is because people are always looking for jobs that would be consistent with their newly acquired qualifications. So, they sometimes leave their jobs while looking for new or better opportunities.

3.2.3. Cyclical unemployment

Cyclical unemployment is a situation where there is an unevenness in the labour market where labour supply is said to be in excess at dominant wage rates (Lindbeck, 2015:738; Longhi & Taylor, 2013:1). That means there is an imbalance between the number of jobs accessible in the market and the number of people considering for jobs at a given period of time. Mohr et al. (Mohr & Fourie, 2009:500) observed that, cyclical unemployment comes from the demand side of the economy. The study defined cyclical employment as a situation where the overall demand for goods and services in an economy cannot support full employment, thereby leaving many people unemployed. In Ghana, there are people who are interested and have the ability to work, at the existing rate, but the companies and the public sector are unable to employ them due to the general economic downturn and government economic policies which have adverse effect on employment.

3.2.4. Structural unemployment

Structural unemployment was defined by Swanepoel and Van Zyl (Swanepoel & Van Zyl, 1999:264) as the unemployment type that is associated with the changes in the economy due to modern technological advancement, variations in consumer choices, competition, etc. According to Mirko (Mirko, 2005:52), structural unemployment could either stem from the frictions in the labour market. According to Freeman (Freeman, 1979: 118) structural unemployment occurs due to the rooted structural trials in the labour market that frequently decrease employment prospects. The study looks at structural unemployment as a mismatch between what people in an economy have and the skills demanded by employers. In terms of the contribution to the GDP of the economy, the industrial sector in Ghana has declined in the past decade while the service sector has been rising. This has led to the problem of “labor demand and supply mismatch”—especially for people in the labour force who need time to adjust to the new jobs. That has resulted in unemployment among many people in the labour force.

3.2.5. Government policies and unemployment

The hypothetical literature on policymaking forecasts that in the design of public policies, the provision of benefits to targeted populations is inclined by the social structure as well as the political power (Ingram & Schneider, 2015). The absorption capacity of a country's unemployment rate is fundamentally based on the quality and contribution of Active labour market policies (ALMP) (Clasen et al., 2016). There is an argument about whether policies reduce unemployment rate or not. According to Sahnoun and Abdennadher (Sahnoun et al., 2020), numerous empirical studies had demonstrated that policies have a mixed effect on unemployment. Policies on wages could either create employment or unemployment depending on the intentions or the technical know-how of the policymakers. Blanchard and Wolfers (2000); Calmfors (2001); Ampofo and Tchatoka (Ampofo & Doko Tchatoka, 2019) all observed that market-related labour policies if planned well could reduce the unemployment rate in countries. A study by Fialova and Schneider (2009) using data from 19 European countries over a period from 1999 to 2004, observed that labour policies have the likelihood of reducing the short-term and the long-term unemployment rate. In the past years, the Ghanaian economy, just like many developing countries, has seen an enhanced economic growth, fueled by an introduction of a wage policy to uplift the image of the public sector as well as the discovery of new natural resources. While policy intentions have always been good just like any other government policy, but the long-term consequences or outcomes are often largely determined by the quality and comprehensiveness of implementation. Interrogation of pay policy implementation and the

consequences thereof had received little attention in Ghana and this study contributes to the policies and the unemployment rate in the extant literature by examining the effect of SSPP on the three types of unemployment—frictional, cyclical and structural.

4. Methodology

4.1. Sample and data collection

The research was conducted in Ghana and it was aimed at surveying managers or business owners in firms with at least 10 employees in a survey design. The sample was drawn from the industrial centres, namely, Accra, Tema, Takoradi and Kumasi. The sample size was selected without any special caveat—regarding registered organisations and unregistered organisations but any of the industries that had a history of recruiting people and had stopped due to policies or activities in the country. Purposive sampling and snowballing sampling techniques were used because the actual frame of the sampling was not known. The survey was conducted from December 2018 to June 2019. The total number of retrieved questionnaires was 400 while interview was conducted with 13 of the respondents. Letters were sent out to the managers and owners of companies situated in the named business cities, clarifying the basis of the study before a request was made for their involvement in providing information for the study.

The first three weeks was used in eliciting information from 13 managers through an unstructured interview; after which their responses together with information from similar studies in journal articles were also used in generating the study's questionnaire. At the end of the six-month period and nine days, a total of 413 managers and owners of businesses had responded to the interview and the questionnaires. Five research assistants were trained to be part of the collection process after initial contacts had been made by the author.

The survey instrument relied on a wide-ranging literature review—where all the operationalised variables were generated by the authors through the extant literature on single spine and unemployment. The research scales were solely designed by the authors with the help of four labour experts from the Kwame Nkrumah University of Science and Technology, Ghana, Rhodes University in Grahamstown as well as the University of Witwatersrand in South Africa. The experts were used to review and assess the survey's content, scope and purpose (Lawshe, 1975; Lynn, 1986) and consequently refined a number of items to simplify explanation and also to ensure that the items appropriately tap into the study's definite setting.

The coded questionnaires were then subjected to Exploratory Factor Analysis (EFA) to assess the study's sampling appropriateness. Measurement items on SSPP, frictional unemployment, structural unemployment as well as cyclical unemployment were all subjected to rigorous validation processes in the form of exploratory factor analysis before they were finally used for the actual analysis. The items were measured on a 5-point Likert scale that was anchored from 1 = strongly disagree to 5 = strongly agree.

4.2. Unidimensionality test

A dimensionality valuation was carried out to test the study's sampling adequacy along with Exploratory Factor Analysis (EFA) and they were in a form of steps: First, Kaiser-Meyer-Olkin (KMO) of sampling adequacy was higher than .8 for each of the study's variable to substantiate the appropriateness of the data for factor analysis while that of the Bartlett's test of sphericity was also less than 0.05 ($p < 0.05$) for all the constructs used in the study (Meyer & Collier, 2001; Pallant, 2010, p. 187). Moreover, a principal components analysis and varimax rotation were also considered to extract appropriate factors for the study's analysis. Third, as part of the selection criterion for significant factors and questions, the criteria were set to be significant at above 1.0 for eigenvalues, greater than .1 for Factor loadings, and at $p < 0.05$

for significance probability (Pallant, 2010, p. 192). The exploratory factor analysis was used to obtain hypothetically significant factors because it was part of the pioneering process in getting items or questions for the study. The findings of the analysis showed that KMO, Bartlett’s sphericity test and significance probability levels all exceed the recommended thresholds for each of the constructs. The eigenvalues for the study’s constructs were as follows: SSPP (2.834), frictional unemployment (2.543), cyclical unemployment (2.902) and structural unemployment (2.202). Factor loadings showed aptness—all surpassing .1. Cumulative variances within the four factors produced high explanatory power of 71.90%. The results proved that unidimensionality was acceptable for the measured items because each item showed high loadings in the factors making it passable for structural analysis.

The above table explains the dimensionality statistics between the actual items or questions that were retained before the study’s structural analysis was carried out as shown or presented in Table 1.

Table 1. Dimensionality statistics of the exploratory factor analysis (EFA)

Constructs (number of items retained)	Factor loadings dimensionality model (EFA)
Single spine pay policy (5) out of (7)	0.629; 0.640; 0.743; 0.701; 0.758
Frictional unemployment (3) out of (7)	0.719; 0.819; 0.697
Cyclical unemployment (4) out of (7)	0.866; 0.894; 0.728; 0.846
Structural unemployment (6) out of (7)	0.565; 0.561; 0.653; 0.755; 0.810; 0.803

Source: Author’s own compilation (2019).

4.3. Partial least square (structural equation modeling)

Partial least squares (PLS) analysis, version 3.0 of PLS Graph, was used in analysing the hypothesised relationships. PLS is a structural equation modeling tool that takes a component-based approach to the process of assessing the measurement model as well as the structural model (Bock et al., 2005; Chin et al., 2003). According to Barclay et al. (1995), PLS model is examined and applied in two stages: (1) the calculation of the reliability and validity of the measurement model and (2) the examination of the structural model (relationships among constructs).

Reliability is the extent to which research is consistent with what it measures (White & Denholm, 2011: 235). The reliability of the study’s instrument was assessed using Cronbach’s alpha and composite reliability which were all greater than 0.7 as seen from Table 2

Table 2. Reliability and validity

	Cronbach alpha	Rho_A	Composite reliability	Average variance extracted
Cyclical unemployment	0.859	0.899	0.902	0.698
Frictional unemployment	0.701	0.702	0.790	0.558
Single spine pay policy	0.740	0.751	0.824	0.523
Structural unemployment	0.787	0.818	0.849	0.512

Source: Author’s own compilation (2019).

Table 3. Discriminant validity

	CU	FU	SSPP	SU
Cyclical unemployment (CU)	0.836			
Frictional unemployment (FU)	0.701	0.747		
Single Spine Pay Policy (SSPP)	0.588	0.525	0.696	
Structural unemployment (SU)	0.597	0.541	0.343	0.699

Source: Author's own compilation (2019). T-statistics = 1.65; $P < 0.05$ and $P < 0.01$.

Validity measures what is supposed to be measured. According to Hair et al. (E. Hair et al., 2006: 771) convergent validity is “the extent at which indicators of a specific variable converge or share a high proportion of variance in common.” It simply explains the extent to which a scale correlates with other measures of the same construct in the same direction. According to Carlsman and Herdman (2012) weaker convergent validity is evident using values deviating from one, while values closer to one are normally accepted. Table 2 presents the estimates of loadings of the average variance extracted that were all greater than 0.5, showing a greater convergent validity. The average variance extracted approximate reflects the total elements of variance in the indicators which are accounted for by a latent construct. Dillon and Goldstein (1984) suggested that an AVE value greater than 0.50 demonstrates that the convergent validity of the variable is good.

Discriminant validity is defined as a situation where one construct differs from others. According to Fornell and Larcker (Fornell & Larcker, 1981:337) and Barclay et al. (1995), discriminant validity is achieved if the square root of its AVE is greater than each correlation coefficient with other constructs. The results presented in Tables 2 and 3 satisfy that requirement, and thus demonstrate that adequate discriminant validity has been achieved.

4.4. Convergent validity

In assessing the convergent validity of the study, the average variance extracted (AVE) values were examined. According to Fornell and Larcker (1981), the average variance extracted ought to exceed 0.5. The condition was rigorously fulfilled in all the constructs.

4.5. Internal consistency

Internal consistency was evaluated by examining construct reliability and convergent validity. A composite reliability measure was used to measure the constructed reliability. According to Nunnally (1978), a recommended value for a composite reliability to be consistent was 0.7 as a yardstick for a “modest” reliability. All the constructs of the study were reliable (see Table 2). All of them have measures of composite reliability above 0.7.

4.6. Goodness-of-fit statistics

The study's goodness-of-fit statistics (GOF) was calculated using a procedure by Tenenhaus et al. (2005), where the averages of both the average variance extracted (AVE) and the residual mean squares “R²” first multiplied after which the multiplied value is squared to determine the model fit.

$$\begin{aligned}\text{GoF} &= \sqrt{\text{AVE} \times R^2} \\ &= \sqrt{2.291 \times 0.537} \\ &= \sqrt{1.2303} \\ &= 1.1091\end{aligned}$$

The calculated GoF was 1.1091, which exceeded the threshold of $\text{GoF} > 0.36$ as recommended by Wetzels et al. (2009). It was therefore concluded that the research model had a superior overall fit.

4.7. Robustness test analysis

To check the robustness analysis of the study, the author conducted a Pearson's correlation test (Zhu et al., 2015) as in the case of the Statistical Package for Social Sciences (SPSS); analysis of moment structures (AMOS) was also used to test the hypothesised relationships while the linear structural relations (Lisrel) was also used in validating the relationships. The results confirmed that all the three different softwares employed in the test showed a strong similarity of their respective outputs—signifying a thorough strength of the findings.

4.8. Common method bias test

Common method variance (CMV) has been a concern for a self-report questionnaire used in data collection—especially when the data are obtained from the same respondents at the same time for both dependent and independent (Podsakoff & Organ, 1986). Failing to control that is more likely to create systemic measurement errors that could inflate or deflate observed associations between the constructs in the study. Researchers referred to that difficulty as common method bias. According to Chang et al. (Chang & Woo-Cumings, 2010), present-day researchers have recommended some approaches to correct the problem of common bias method and they were as follows: ex-ante and ex-post. Ex-ante is applied in the design stage while ex-post is applied in the data analysis stage. The author employed an ex-ante approach by reassuring the respondents of their anonymity and confidentiality and went further to ensure that indistinct and inexperienced related activities from the respondents are excluded. Ex-post approach was by the use of the Harman one-factor test (Podsakoff & Organ, 1986). The outcome of unrotated factor analysis based on the principal component method.

The path coefficient figures between the variables in Figure 2 show the relationship and the strength of the hypothesised relationships recording as the strongest; thus, cyclical unemployment, followed by frictional unemployment while structural unemployment recorded the least of the effects.

The structural model in Figure 3 was used to determine the significance level of the various relationships.

SSPP=Single spine pay policy; FU=Frictional unemployment; CU = Cyclical unemployment; SU = Structural unemployment; T-statistics=critical t values of 1.65 (significance level 5%) and 2.33 (significance level 1%); $P < 0.05$ and $P < 0.01$.

5. Findings and discussions

5.1. Findings from the interview

Questions and interviews quotes

A semi-structured interview which was in the form of a projective technique was used to generate insights from the initial 13 different managers or respondents. The questions as well as some quotes on the effects of the SSPP on unemployment are presented below:

1. In your opinion, what are the key policies that had affected your business activities? 2. Is there any association between the policy (Single spine pay policy) and current socioeconomic activities? 3. In your opinion, what are the major issues with your business with reference to the introduction of the single spine pay policy?

It was revealed from the interview that the introduction of the SSPP led to business owners not employing more people and below were some of the quotes from the interviewees:

“My workers were comparing themselves to those in the public sector in terms of salaries and that was worrying.” My brother, the behavior of my employees changed, few after the first pay of the single spine salary among public sector workers came out ‘It then forced me to limit the numbers I can employ.”

Many of the business owners revealed that the general behaviour of their workers changed immediately the SSPP was implemented within the public sector. Many of their workers started agitating for a wage increase because their colleagues in the public sector were earning higher wages. In view of that, most of the managers or the owners of the businesses were forced to place a cap on the number of people they could employ in order to make savings and to use same to motivate those who stayed on to work for them. The entrepreneurs felt the need to recruit to support their operations, but they could not do so because of the cost of labour, which had increased in real terms because of the government policy on wages. Thus, the implementation of the policy led to an increase in the unemployment rate because employers in the private sector could not pay the increased salaries emanating from the SSPP.

“I stopped employing more after 2010 when the single spine was introduced.”

5.2. “I stopped employing more after 2010 when the single spine was introduced”

“After the introduction of the single spine pay policy, I saw a change in attitude of my workers and that compelled me to limit or to reduce the numbers that I could employ.”

“I cannot match up with what the government is offering to my employees, so I do not employ many people now.”

Some of the entrepreneurs also revealed that what the government was offering to the public as the monthly salary to those in the public sector was too high for them to match up to and breakeven. They opined that there were other taxes that they were paying so an increase in the wage bill was going to affect their businesses negatively, so the only option at that time was to limit the numbers they could employ to stay within their expenses.

“The introduction of the single spine pay policy changed the whole payment process. At a point, the workers wanted to demonstrate for a pay increase, after the policy was introduced and that decreased my interest in employing younger ones.”

“The agitation for salary increases became too much few months after the introduction of the single spine salary policy so to protect my business; I stopped employing them after many resigned to join the public service for fat salaries.”

Many of the managers also revealed that the implementation of the SSPP led to an increase in labour agitation at work. Workers continuously insisted on negotiations and labour meetings to discuss pay equality. The first three months after the introduction of the policy were very difficult for them to bear. In view of that, they immediately shelved all applications for employment to their units. Some of the managers noted that the policy made things scary and difficult for their business to recruit people due to fear of demonstrations and industrial riots for a pay rise.

5.3. Result on the demographic and the hypothesised relationships of the study

The study sought to examine the influence of SSPP on Ghana's unemployment. In assessing the structural model paths, coefficients and the statistical significance of each path, the study used Smart PLS 3.0 software. Bootstrapping was employed to authenticate the results of the hypotheses, with 300 bootstrap samples selected for a one-tailed test—which relied on critical t values of 1.65 (significance level 5%) and 2.33 (significance level 1%) as observed by J.F. Hair et al. (2013). Path coefficients and the R² values were jointly used to assess the model while the error estimates and t-statistics values were used to check the statistical implications (Chin, 1998).

The data presented a judiciously high number of participants who were one way or the other providing jobs as a result of their businesses. A greater number of the respondents were male recording 56% while females constituted 46%. The respondents' ages were tilted towards those between the ages of 41–50 years recording the highest with 49%; followed by those above 50 years recording 38% while those between the ages of 31–40 recorded the least with 13%. On the respondents' educational background, it was observed that respondents with Ordinary/Advanced—Level certificate recorded the highest with 34%; followed by those with Middle School Leavers Certificate (MSLC)/Junior High School Certificate with 30%; degree holders with 26% while those with diploma certificates recorded the least with 10%.

5.4. Hypothesised relationships of the study

The quantitative analysis of the study was carried out on three hypotheses and it was revealed that there was a significant positive relationship between “SSPP” on all the three categories of the unemployment—namely, “frictional unemployment,” “cyclical unemployment,” as well as “structural unemployment” as seen in Figure 1, Table 4 and Figure 3. In terms of the significance level, it was observed that the SSPP had a greater influence on the cyclical unemployment type, which then explained that the policy resulted in more people not getting jobs as a result of downturns in business cycle due to the introduction of the policy as opined by the interviewers. The result supported the fact that Ghana had no clear scientific measure on the consequences of the policy (Ampofo, 2019). The demand for high wages after 2010 had changed the business cycle, leading to a high rate of people

Figure 1. Conceptual model of the study.

Source: Authors' own construction (2019)

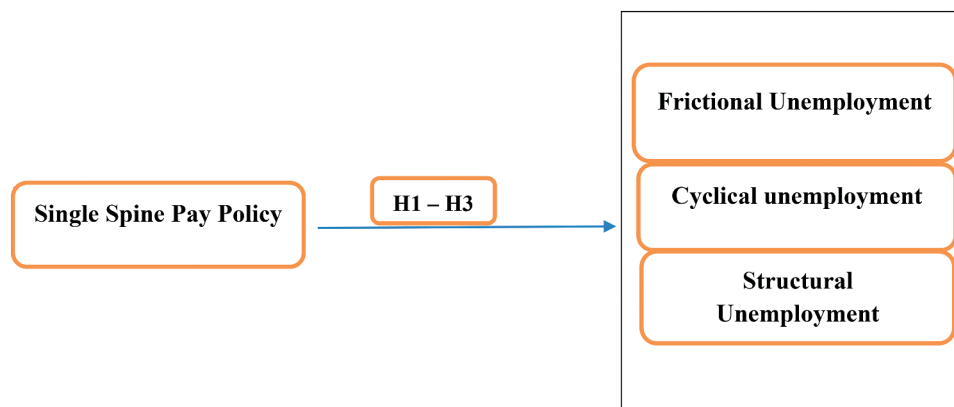
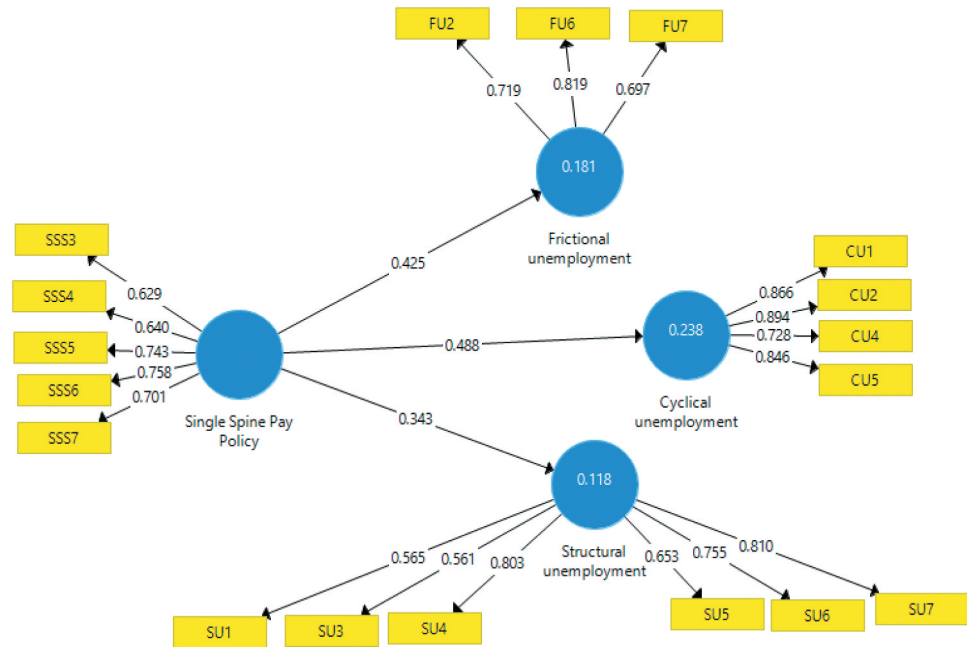


Figure 2. Structural model of the study. SSPP = Single spine pay policy; FU = Frictional unemployment; CU = Cyclical unemployment; SU = Structural unemployment.



not getting jobs. It was then followed by a frictional unemployment type where people were not getting jobs as a result of movements from one job to the other, in a situation where their demands were not met in terms of remunerations or condition of service. The findings were consistent with Liu et al. (2012) who observed that there has always been a potentially lifelong adverse effects on employment as a result of policies on labour. Finally, structural unemployment was also positive and significant but it recorded the least among the three. It was then inferred that the policy led to a mismatch between the jobs available and the skills of the employees. It was observed from the

Figure 3. Structural model of the study with T-statistics. SSPP = Single spine pay policy; FU = Frictional unemployment; CU = Cyclical unemployment; SU = Structural unemployment.

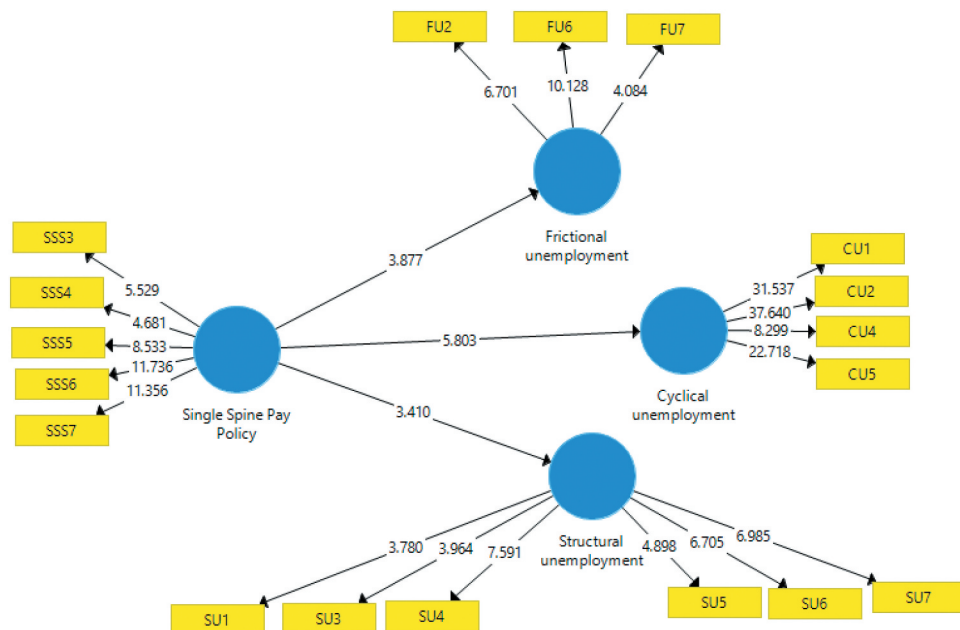


Table 4. Structural analysis

Study's hypothesis	Hypothesis	Path coefficients	T-Statistics	P-Values	Supported/ Rejected
SSPP → FU	H1	0.425	3.877	0.000***	Supported
SSPP → CU	H2	0.488	5.803	0.000***	Supported
SSPP → SU	H3	0.343	3.410	0.000 ***	Supported

study that many of the business managers felt that the wage rates their employees wanted them to offer due to the policy were not in consistent with their respective output and that led to many reducing the numbers they could take. The finding was consistent with conclusions made by Armstrong (2009) that there was little room for the measurement of performance and the consequences associated with the policy. It can therefore be concluded that, in general, the SSPP led to an increase in the unemployment numbers in Ghana. The findings further revealed that the effect was stronger on cyclical unemployment, followed by the frictional unemployment as well as the structural unemployment.

6. Conclusion and contribution of the study

The main aim of the study was to investigate the effect of SSPP on unemployment in Ghana. The study revealed that SSPP had a positive effect on all the three dimensions of the unemployment. In particular, the effect on the cyclical unemployment was high, which suggested that people who were interested and had the capability to work, unfortunately, were unable to find jobs due to the introduction of the SSPP. Employees working in the private sector consistently demanded for same salaries as their colleagues in the public sector with same qualifications. Such labour agitations made business owners to cut back on their recruitments. The effect of the SSPP on frictional unemployment was that many people resigned from many of the private companies in order to cash in on the pay rise in the public sector. This situation led to increases in the unemployment rate because there were limited vacancies in the public sector for those who had been induced to work in the sector because of the implementation of the SSPP. The least effect was on structural unemployment where people became unemployed due to the general decline of the industrial-sector employment. To retain their workers, private sector employers had to pay their workers commensurate salaries as those in the public sector, resulting in reduced profit which would have otherwise been reinvested in the business to aid in additional employment of some proportion of the labour force. Government labour policies like the introduction of the equity wage increase will always be seen as a fruitful policy in the short run, but the long-run effects could be more unfavourable to the very people the policy was intended to help. Policies on wages ought to be considered by focusing on long-run returns rather than by their short-run intentions.

The findings have significant research contributions in three phases: In the first place, the findings from the study contribute to the scant literature on SSPP and unemployment—especially from the perspective of measuring unemployment as a multi-dimensional construct. In addition, it also fills the void in the empirical literature on the limited application of sequential mixed design method in assessing SSPP–unemployment relationship. Moreover, the study also brings to the fore, the need for policymakers to do a critical assessment of the outcome of the government policies before adopting and implementing them rather than focusing on the intended intentions than their long-term consequences.

7. Limitations of the study and avenue for future research

As with most studies, the paper has some limitations. First, this study was limited to only four business cities in Ghana, namely, Accra, Tema, Takoradi and Kumasi. This evidently affected the

sample size used and therefore future researchers ought to add all the other business cities in the various regions, so as to increase the sample size. Secondly, the use of the non-probability sampling technique instead of the probability sampling is expected to limit the study in terms of generalisation. Future studies ought to apply a probability sampling technique to make it easier for a generalisation to be made.

Acknowledgements

The authors thank the editor, the reviewers of the journal towards the improvement of the manuscript as well as the organisers of the 2019 Biennial Conference of the Economic Society of South Africa for their scholarly support and comments during the abstract presentation of the manuscript in Johannesburg, South Africa.

Funding

The authors received no direct funding for this research.

Author details

Martin Owusu Ansah¹

E-mail: m.owusuansah97@gmail.com

ORCID ID: <http://orcid.org/0000-0002-5005-5670>

Rosemary Boateng Coffie²

ORCID ID: <http://orcid.org/0000-0002-4090-128X>

Samuel Awuni Azinga¹

ORCID ID: <http://orcid.org/0000-0002-9981-2767>

Michael Nimo³

ORCID ID: <http://orcid.org/0000-0002-7594-006X>

¹ Department of Marketing and Corporate Strategy, KNUST School of Business, Kumasi, Ghana.

² Department of Human Resource and Organizational Development, KNUST School of Business, Kumasi, Ghana.

³ Department of History and Political Studies, KNUST, Kumasi, Ghana.

Citation information

Cite this article as: Ghana's single spine pay policy and unemployment: The application of the partial least square modelling approach, Martin Owusu Ansah, Rosemary Boateng Coffie, Samuel Awuni Azinga & Michael Nimo, *Cogent Economics & Finance* (2021), 9: 1911766.

References

- AEO (African Economic Outlook). (2012). *Promoting youth unemployment*. Promoting Youth Employment. <http://www.africaneconomicoutlook.org/fileadmin/uploads/PAGES%20Pocket%20Edition%20AEO2012-EN.pdf> Date of access: 10 June, 2019.
- Aliu, M., & Fuseini, M. (2014). Appraisal of implementation of the single spine pay policy in Ghana: A case of the university for development studies. *Int. J. Eco. Comm. Mgt*, 2(10), 2348-0386.
- Ampofo, A. (2019). *Identifying oil extraction effects in developing countries: Evidence from Ghana (Doctoral dissertation)*.
- Ampofo, A., & Doko Tchatoka, F. (2019). Reducing public-private sector pay differentials: The single spine pay policy as a natural experiment in Ghana. *Economic Inquiry*, 57(1), 283-315. <https://doi.org/10.1111/ecin.12694>
- Armstrong, M. (2009). *Armstrong's Handbook of Human Resource Management Practice* (11th ed.). Kogan Page Limited.
- Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling, personal computer adoption and use as an illustration. *Technol. Stud*, 2, 285-309.
- Bock, G. W., Zmud, R. W., Kim, Y. G., & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quart*, 57(1), 87-111. <https://doi.org/10.2307/25148669>
- Calmfors, L. (2001). Unemployment, labor market reform, and monetary union. *Journal of Labor Economics*, 19(2), 265-289. <https://doi.org/10.1086/319561>
- Cavalcanti, C. (2009). Estimating the fiscal cost of implementing Ghana's single pay spine reform. Policy Research Working Paper, The World Bank, WPS 5150.
- Chang, H. J., & Woo-Cumings, M. (2010). How to 'do' a developmental state. Constructing a democratic developmental state in South Africa. HSRC. *Pretoria*, 88.
- Chin, W. W. (1998). Issues and opinion on structural equation modelling. *MIS Quarterly*, 22(1), 7-16.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modelling approach for measuring inter-action effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217. <https://doi.org/10.1287/isre.14.2.189.16018>
- Clasen, J., Clegg, D., & Goerne, A. (2016). Comparative social policy analysis and active labour market policy: Putting quality before quantity. *Journal of Social Policy*, 45(1), 21-38. <https://doi.org/10.1017/S0047279415000434>
- Downs, A. (1957). *An Economic Theory of Democracy*. Harper & Row.
- Duodu, A. (2019). *Public-Private Sector Wage Gap in Ghana: Single Spine Pay Policy to the Rescue?*
- Fialova, K., & Schneider, O. (2009). Labor market institutions and their effect on labor market performance in the new EU member countries. *Eastern European Economics*, 47(3), 57-83. <https://doi.org/10.2753/EEE0012-8775470303>
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.
- Freeman, R. (1979). *Foundations of modern economic series: Labour economics*, O. Eckstein Edited by. (2nd ed.). Prentice-Hall Inc.
- Garg, S. (2015). *Enterprising youth: Sub-Saharan Africa's uncashed dividend*. <http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/8597/Sukanya%20Garg%20Masters%20Project%20.pdf?sequence=1> Date of access: 10th August, 2018.
- GOG (2009). Government white paper on the single spine pay policy: Assembly press Accra Ghana.
- Government white paper on the single spine pay policy (2009). WP. NO. 1/2009.
- Government white paper on the single spine pay policy november (2009), Retrieved Online: WP.No.1/2009-fairwages.gov.gh/files/GovernmentWhitepaper.pdf.
- Hair, E., Halle, T., Terry-Humen, E., Lavelle, B., & Calkins, J. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly*, 21

- (4), 431–454. <https://doi.org/10.1016/j.ecresq.2006.09.005>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1–12. <https://doi.org/10.1016/j.lrp.2013.01.001>
- Hasnain, Z., Manning, N., & Pierskalla, J. H. (2012). *Performance-related pay in the public sector: A review of theory and evidence*. The World Bank.
- ILO (International Labour Organisation). (2014). *Global employment trends*. ILO.
- Ingram, H., & Schneider, A. L. (2015). *Making distinctions: The social construction of target populations*. In *Handbook of critical policy studies*. Edward Elgar Publishing.
- Janoski, T., Luke, D., & Oliver, C. (2014). *The causes of structural unemployment: Four factors that keep people from the jobs they deserve*. Polity Press.
- Kiragu, K., & Mukandala, R. (2003). *Tactics sequencing and politics in developing countries: Lessons from-Sub-Saharan African, (Draft Report)*.
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28(4), 563–575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>
- Lindbeck, A. (2015). Unemployment: Structural. *International Encyclopedia of the Social & Behavioral Sciences*, 23, 738–743.
- Liu, C. H., Tzeng, G. H., & Lee, M. H. (2012). Improving tourism policy implementation—The use of hybrid MCDM models. *Tourism Management*, 33(2), 413–426. <https://doi.org/10.1016/j.tourman.2011.05.002>
- Longhi, S., & Taylor, M. (2013). *Employed and unemployed job seekers and the business cycle*. University of Essex. Institute for Social and Economic Research.
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–386. <https://doi.org/10.1097/00006199-198611000-00017>
- McConnell, C., . R., Brue, S., . L., & Macpherson, D., . A. (2009). *Contemporary labour economics* (8th ed. ed.). McGraw-Hill.
- Meyer, M., . S., & Collier, A., . D. (2001). An empirical test of the causal relationship in the Baldrige health care pilot criteria. *Journal of Operation Management*, 19(4), 403–425. [https://doi.org/10.1016/S0272-6963\(01\)00053-5](https://doi.org/10.1016/S0272-6963(01)00053-5)
- Mirko, M. (2005). The Maltese labour market and frictional unemployment. *Bank of Valletta Review*, 32, 47–61.
- Mohr, P., & Fourie, L. (2009). *Economics for South African students* (4th ed. ed.). Van Schaik.
- Mpere, D., . L. (2015). *The implementation of the single spine salary structure (SSSS) in Ghana*. Master Dissertation. University of Ghana.
- Nkrumah, M. A. (1980). Implementation of United Nations programmes: A case study of UNDP activities in Ghana, 1983-1990. *Unpublished research project presented to the Ghana Institute Management and Public Administration (GIMPA)*, Vol.2: 51.
- Nordhaus, W. (1975). *The political business cycle*, in *Review of Economic Studies*, 42(2), 169 -190.
- Nunnally, J. C. (1978). *Psychometric Theory*. McGraw-Hill.
- Oppenheimer, J., & Spicer, M. (2011). *Creating employment in Africa. Putting Young Africans to Work: Addressing Africa's Youth. Unemployment Crisis*.
- Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS 2010*. Open University Press/McGraw-Hill.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544. <https://doi.org/10.1177/014920638601200408>
- Republic of Ghana. (1967). *Mills Odoi Report of the Salary Review Commission*. Government Printer.
- Republic of Ghana. (1973). *Issifu Ali Report of the Salary Review Committee*. Government Printer.
- Republic of Ghana. (1979). *Azu-Crabbe, Report of the Salary Review Commission*. Government Printer.
- Republic of Ghana. (2009). White paper on the single spine pay policy, WP.No.1/2009-fairwages.gov.gh/files/Government White paper.pdf
- Sahnoun, M., Abdennadher, & Abdennadher, C. (2020). A simultaneous-equation model of active labour market policies and change in unemployment rate: Evidence from OECD countries. *Policy Studies*, 1–18. <https://doi.org/10.1080/01442872.2020.1754384>
- Sakyi, E. K. (2008a). *Challenges to the Implementation of civil service reform in Sub-Saharan African Countries: Reflections on Ghana*. Legon Journal of International Affairs.
- Swanepoel, D. J., & Van Zyl, J. S. (1999). *Economics 2000*. Nasou.
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159–205. <https://doi.org/10.1016/j.csda.2004.03.005>
- Tiganas, C.–. G., & Peptine, C. (2012). Political business cycle and economic instability – Literature review, CES working papers, 2067-7693, Alexandru Ioan Cuza University of Iasi. *Centre for European Studies*, Iasi 4 (4), 853–865.
- Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *Management Information Systems Quarterly*, 33(1), 177–195. <https://doi.org/10.2307/20650284>
- World Bank. (2013). *World development report: Jobs*. The World Bank.
- World Bank. (2016b). *Expanding job opportunities in Ghana. Directions in development by Honorati, Maddalena Sara Johansson, Silva de for the World Bank*. <https://doi.org/10.1596/978-1-4648-0941-5>
- Zhu, Z., Zhao, J., Tang, X., & Zhang, Y. (2015). Leveraging e-business process for business value: A layered structure perspective. *Information & Management*, 52(6), 679–691. <https://doi.org/10.1016/j.im.2015.05.004>



© 2021 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

You are free to:

Share — copy and redistribute the material in any medium or format.

Adapt — remix, transform, and build upon the material for any purpose, even commercially.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

No additional restrictions

You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.



***Cogent Economics & Finance* (ISSN: 2332-2039) is published by Cogent OA, part of Taylor & Francis Group.**

Publishing with Cogent OA ensures:

- Immediate, universal access to your article on publication
- High visibility and discoverability via the Cogent OA website as well as Taylor & Francis Online
- Download and citation statistics for your article
- Rapid online publication
- Input from, and dialog with, expert editors and editorial boards
- Retention of full copyright of your article
- Guaranteed legacy preservation of your article
- Discounts and waivers for authors in developing regions

Submit your manuscript to a Cogent OA journal at www.CogentOA.com

