

Determinants of Health Expenditures: A Case of High Populated Asian Countries

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Abstract

This study investigates the determinants of health expenditure in high-populated Asian countries, focusing on Pakistan and India, as well as the short and long-term effects of health expenditure on economic growth. The main objectives are as; to identify the determinants of health expenditure in Pakistan and India, and to analyze the short-run determinants of health expenditure on economic growth in high-populated Asian countries. Panel data from 2001 to 2019 sourced from the World Development Indicator (WDI) is utilized. The study employs various variables, including health expenditure, population, urban population, unemployment, GDP growth, and school enrollment. Estimations are conducted using the Autoregressive Distributed Lag (ARDL) approach. Findings reveal a significant long-run relationship between health expenditure and population, GDP growth, school enrollment, and unemployment across Asian countries, while the urban population exhibits insignificance. In the short run, population and school enrollment demonstrate a significant relationship with health expenditure, whereas urban population, unemployment, and GDP growth exhibit insignificance. These findings contribute to understanding the dynamics of health expenditure and its impact on economic growth in high-populated Asian countries, informing policymakers on effective strategies for healthcare investment and economic development.

Keywords: Autoregressive Distributed Lag; World Development Indicator; GDP Growth.

Introduction

Health expenditure involves an incredible portion of government spending plans and uses. Governments continually search for ways to decrease their expenses, and the health division isn't a special case. Despite, as a result of being compelled to react to individuals, it is unimaginable for them to lessen their expenses explicitly in the health division; along these lines, they are searching for increasingly ideal approaches to take care of this issue (Paula, 2008).

Health is a need instead of overspending for humans, which is significant in inquiries about various analytical creatures (Bhat & Jain, 2004). An individual with unforeseen weaknesses can't work appropriately and productively. Work power is a huge creation factor, more so than capital and innovation (Elmi & Sadeghi, 2012). Healthy labourers can work longer hours and are more profitable than unfortunate specialists. Therefore, they succeed in higher income and assume a

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significant role in the nation's economic improvement. A major determinant of economic development is interest in human capital. On account of kids, unexpected weakness additionally harms their learning capacities and instructive results. Unexpected frailty diminishes human capital productivity (Font & Novell, 2007).

That is why the increase in general health expenditure has been so significant in recent years. On the off chance that the issue of low spending on social insurance governments is not explained, it will cause substantially more issues like human capital wastefulness, low efficiency, low sparing and speculation (as an enormous bit of pay spent on unforeseen weakness and infections) and low school enlistment rates. Thus, the economic development of the nation will be influenced. The elements that affect the choices of general health expenditure incorporate ecological and natural variables and segment, financial, and social components (Gupta et al., 2003).

Schultz (1999) hypothesized that great health positively affects the learning capacity of youngsters, which leads to a better instructive result, school finishing rate, higher methods for years of tutoring, accomplishment, and builds the productivity of human capital development by people and family units. Lawanson (2009) attested that health is one of the significant segments of human capital arrangement. Todaro and Smith (2010) uncovers that HR establishes a definitive essential for the abundance of countries, capital, and characteristic assets are aloof factors of creation; people are the dynamic operators who amass capital, abuse normal assets, construct social monetary and political association and convey advances national turn of events.

In recent years or something like that, examining the determinants (both level and development) of health expenditure has been exceptionally enticing among health business analysts and applied econometricians. The original work of Newhouse (1977) around there gave a significant foundation to such work. Significant written works have inspected whether the salary of a nation, controlling for different components, is the substantial determinant in well-being use. In light of the discoveries, an attempt was made to show whether Health is fundamental or an extravagant product. The significant discussion in a large portion of the writing is to see whether the salary flexibility of well-being use is not exactly or more prominent than one. An in-depth audit uncovers the best way to go before, what kind of information to utilize, which strategy/procedure to use, and which logical factors to incorporate aren't different.

Although Pakistan's health position has improved after some time, it still needs to catch up to global principles. The information shows that essential health indicators were chosen to change altogether in the 11 Asian nations. On the off chance that we rank these nations based on the future during childbirth, Pakistan is positioned ninth in the gathering of 11 Asian countries. Different pointers also show that Pakistan needs to make a solid effort to improve the health status of its populace.

As a developing nation, Pakistan spends very little money on a health government. Although general health expenditure expanded by 430 per cent during 1970–78, progress declined. The scope of the proportion of health expenditure to total national output changed between 0.4–0.9 per cent during 1972–93. How changes in health expenditure influence the health status of a country is a significant issue. Creating nations, where 78 per cent of the total populace lives, spend just 10 per cent of the all-out world health expenditure. The portions of health expenditure in net national items (GNP) are likewise unique across areas. In 1991, they created nations that spent just 4.7 per cent of their GNP on health, though the proportion was 9.2 per cent for set-up showcase economies (EME).

Moreover, per capita health expenditure in Pakistan is just 1/10 of the health expenditure in Sub-Saharan Africa (SSA), the most unfortunate district on the planet. These distinctions in well-being make it basic to comprehend the effect of government health approaches.

The health expenditure shows that specialists, medical attendants, and emergency clinic beds have expanded strongly in Pakistan. Be that as it may, this expansion is influenced by the fast populace development rate. For instance, the development pace of medical clinic beds is practically equivalent to the populace development rate, which shows that the accessibility of emergency clinic beds per (000) man declined at a moderate pace of 0.89 per cent during 1973–93. Be that as it may, the development pace of the health workforce, i.e., specialists, attendants, and maternity specialists, was very noteworthy. Thus, apparent health expenditure increased quickly during 1973–94. However, genuine improvement use on health didn't change, and nearly 50 per cent of apparent non-development use was consumed by more significant expenses.

Despite quick development in health staff, access to well-being offices was restricted, especially because of the increasing expense of clinical administrations and medications, inconsistent conveyance of offices between urban/provincial regions, and wasteful use of accessible health resources. By and large, it expanded by 12.32 per cent per annum during 1973–93. Moreover, despite government declarations to control the costs of prescriptions (especially life-sparing medications), the costs have expanded by more than 100 per cent during the ongoing years.

As indicated by Economic research foundation New Delhi (2006) the principal orderly investigation of the circulation of well-being spending in India by the wellspring of assets was distributed in the national health accounts of India, 2001-02. According to this gauge, families represented more than 66% of health expenditure in the nation, and around multiple times the measure of all administration use taken together by local, state and nearby governments. Bosses (firms) represent just 5 per cent; however, what is particularly remarkable is irrelevantly pretended by both outer sources and others, including NGOs. Despite the detailed increment in the outside guide for managing HIV-AIDS and comparable issues, every single outer source taken together represented just 2 per cent of absolute Health expenditure, while NGOs represented just 0.3 per cent.

Health expenditure, a critical component of healthcare financing, is a key indicator of a country's commitment to ensuring the well-being of its population. In high-populated Asian countries, where demographic pressures and healthcare challenges are particularly pronounced, understanding the determinants of health expenditure is essential for effective policy formulation and resource allocation (WHO, 2017). This introduction sets the stage for exploring the factors influencing health expenditure in high-populated Asian countries, focusing on Pakistan and India, drawing upon insights from diverse sources to provide a comprehensive understanding of the dynamics of healthcare financing in the region.

Highly populated Asian countries face many healthcare challenges driven by rapid urbanization, shifting demographics, and evolving disease patterns (UNDP, 2019). As populations expand and age, the demand for healthcare services escalates, exerting pressure on healthcare systems and necessitating increased investment in healthcare infrastructure, personnel, and technology. Consequently, unravelling the determinants of health expenditure becomes imperative for policymakers seeking to ensure the sustainability and effectiveness of healthcare provision in these countries.

The determinants of health expenditure in high-populated Asian countries are multifaceted, influenced by a complex interplay of economic, demographic, and social factors (Ministry of Health Pakistan, 2020). Financial variables such as GDP growth, income levels, and fiscal capacity

shape governments' ability to allocate resources to healthcare. Demographic factors, including population size, age structure, and urbanization rates, significantly impact the demand for healthcare services and expenditure patterns.

Moreover, social determinants such as education levels, healthcare utilization patterns, and cultural beliefs also play a pivotal role in shaping health expenditure behaviours (World Bank, 2018). Understanding these factors and their interactions is crucial for designing targeted interventions to improve healthcare access, quality, and equity in high-populated Asian countries.

This introduction synthesizes insights from various sources, including academic research, policy documents, and statistical databases, to provide a holistic view of the determinants of health expenditure in high-populated Asian countries. Drawing upon diverse perspectives, this research seeks to inform evidence-based policy decisions to strengthen healthcare systems, enhance population health outcomes, and promote sustainable development in the region.

Later gauges propose that the number of families working has expanded generously in the latest time frame. As per the report of the National Commission on Macroeconomics and Health (2005) family units attempted almost three-fourths of all the health expenditure in the nation. Open spending was just 22 per cent, and every other source represented under 5 per cent. Both the per capita spending and the portion of family units in this shifted generally across states. Per capita going through in the state with the most elevated rate (Goa) is about multiple times that of per capita going through in the state with the least spending (Meghalaya). Curiously, the portion of family unit spending is the most reduced in Meghalaya, yet it was among the most elevated in Bihar, which has moderately low per capita spending. There are numerous states where family units attempt more than 80 percent of all health expenditure, demonstrating an especially high weight on them.

Study Objectives

- To find the determinants of health expenditure in highly populated Asian countries.
- To find the determinants of health expenditure on the economic growth of highly populated Asian countries in the short run.
- To find the determinants of health expenditure on the economic growth of highly populated Asian countries in the long run.

Literature Review

This part incorporates the key outcome for different analysts who have led various studies on climatic changes and monetary development and the impact of environmental change on multiple divisions of the economy. These ends are exceptionally useful for specialists who want to give better suggestions for this subject.

Hameed et al. (2024) explained that health expenditures become catastrophic when they exceed a specific portion of the household's monthly income. This study analyzed the socio-economic impact of catastrophic health expenditures in Tehsil Ali Pur, district Muzaffargarh (Pakistan). Data is collected through a semi-structured questionnaire from 270 households using a random sampling technique. The binary logistic regression model analyzed the relationship between health catastrophes and other socio-economic variables. Study findings show that 61% of the targeted households faced catastrophic health expenditures in the last three months. About 70% of the respondents confirmed that it affected their daily consumption level, and 92% lost their working days due to health issues. Moreover, 74% of the respondents reported that they had managed health

expenditures by selling properties or taking out loans. Results indicated that the probability of catastrophic health expenditures (CHE) decreases by 0.007 with a one-unit increase in income. Shamsi and Waqas (2016) explored the determinants of public health expenditure in Pakistan by utilizing different socio-economic variables. Samadi and Red (2013) investigated the determinants of healthcare expenditure in Economic Cooperation Organization (ECO) countries: evidence from panel cointegration tests. The findings of these studies indicated that income, elementary school enlistment, and urban population positively affect general health expenditure, while the joblessness rate harms general health expenditure. Imoughele and Ismaila (2013) studied Nigeria's determinants of public healthcare expenditure. Their conclusions show that interest in health in Nigeria is cost-inelastic. It likewise indicates that the populace of 14 years of age and younger and health expenditure share in total national output (intermediary for government formative arrangement on wellbeing) are the significant determinants of health expenditure in Nigeria while total national output per capita, joblessness rate, population per physician, buyer value file and political flimsiness are inconsequential. Rice et al. (2018) concluded healthcare expenditure growth determinants. The study's findings show that the expansion in (log) use seen over the two-time frames can be decayed into a significant impact because of an adjustment in the dissemination of qualities and a peripheral commitment because of an adjustment in the connection among attributes and consumption.

Toor and Butt (2005) studied determinants of expenditure on health in Pakistan. The results of this study show that financial components and political conditions are significant in deciding health assets in Pakistan. The proof shows that although the accessibility of health expenditures like specialists and medical attendants is expanding in Pakistan, their usage and dispersion remain serious issues. Ke et al. (2011) analyzed the determinants of health expenditure: a country-level panel data analysis. The study findings that administration health expenditure and cash-based instalments follow various ways and that the pace of health expenditure development is distinctive for nations at different degrees of financial turn of events.

Contrary to some other researchers, Akram and Khan (2007) studied health care services and government spending in Pakistan. Hooda (2015) analyzed the determinants of public expenditure on health in India: discoveries show that the responsiveness of health expenditure is delicate (with flexibility short of what one) to change in the per capita pay of both countries. The segment factors, be that as it may, are less inclined to impact the expenditure on health. Abbas and Hiemenz (2011) examined the determinants of public health expenditures in Pakistan. This study concludes that unemployment and urbanization have a solid negative effect on health expenditure over the long haul, yet urbanization is optional in the short run. Moreover, utilizing cointegration and Granger's bi-variate causality study for the health status of the populace, it is gauged that per capita health expenditures are contrarily related to newborn child death rate and female future.

Data and Methodology

This chapter illustrates the variables, their nature, and sources of data, models, tests, and estimation techniques.

This chapter elucidates the variables, their characteristics, data sources, models, tests, and estimation techniques utilized in the study on the determinants of health expenditure in high-populated Asian countries. The chapter is organized into three sections, each addressing specific aspects of the research methodology.

Description of Data

The first section provides an overview of the data utilized in the study and delineates the sources from which it was obtained. The panel data employed comprises information on health expenditure (HE), population (PO), urban population (UP), unemployment (UE), gross domestic product growth (GDP), and school enrollment (SE). These variables were sourced from the World Development Indicator (WDI), a comprehensive database maintained by the World Bank. The data spans from 2001 to 2019 and pertains to Pakistan and India, two high-populated Asian countries selected for the study due to their significant demographic and economic characteristics.

Variables and Definitions

The second section delves into the variables under investigation, providing concise definitions and explanations of the measures employed for quantification. Health expenditure (HE) represents the total expenditure on healthcare goods and services, encompassing public and private spending. Population (PO) refers to the total number of individuals residing in a country, while urban population (UP) denotes the proportion of the population living in urban areas. Unemployment (UE) reflects the percentage of the unemployed labour force and actively seeking employment. Gross domestic product growth (GDP) signifies the annual percentage change in a country's Gross Domestic Product (GDP), indicating its economic growth trajectory. School enrollment (SE) measures the percentage of children within the relevant age group enrolled in educational institutions.

Estimation Techniques

The final section outlines the estimation techniques utilized in the study to analyze the relationship between health expenditure and its determinants. Given the panel nature of the data and the need to account for potential time series and cross-sectional dependencies, the study employs the Autoregressive Distributed Lag (ARDL) approach. The ARDL model allows for examining both short-run and long-run relationships between health expenditure and its determinants while addressing non-stationarity and endogeneity commonly encountered in empirical analyses. Additionally, various econometric tests, such as unit root tests and cointegration tests, are conducted to ensure the robustness and validity of the estimated models.

In summary, this chapter provides a comprehensive overview of the data and methodology employed in the study on the determinants of health expenditure in high-populated Asian countries. Through meticulous selection of variables, rigorous data analysis, and appropriate estimation techniques, the research aims to contribute to understanding healthcare financing dynamics and inform evidence-based policy interventions to improve population health outcomes in the region.

Econometrics model:

In this study used the following econometric model:

$$LHE_t = \beta_1 + \beta_2 LPO_t + \beta_3 LUE_t + \beta_4 LUP + \beta_5 LSE_t + \beta_6 LGDP_t + u_{t1}$$

In this model, L shows the logarithm values of the variables. There are six variables use in this study such as HE shows External health expenditure per capita (current US\$) for Pakistan and India. PO explains the total population of both countries. UE denotes Unemployment, youth total (% of total labor force ages 15-24). UP shows the urban population of Pakistan and India. SE demonstrates School enrollment, tertiary (gross), gender parity index (GPI) and GDP explains gross domestic products per capita (current LCU) for both economies.

Unit Root Test

The unit root test is used to stationaries the data. It means to check that the mean, variance, and covariance of the data remain stable over time. The majority normally used test in the unit root test is the Augmented Dickey-Fuller test (ADF). ADF test is used to remove the problem of autocorrelation from the data.

This study used the unit root test.

$$= \rho + -1 \leq \rho \leq 1 \quad 1$$

Where is a white noise error term, is lagged value, and ρ estimated value.

Subtract from both sides.

$$= \rho + 2$$

$$= (\rho) +$$

Alternatively written as:

$$\Delta = \delta \quad 3$$

Augmented Dickey-Fuller Test (ADF Test)

Augmented is the expansion of Dickey-Fuller. For the study of autocorrelation in the higher order of dependent variables used ADF test. The three possible types of the ADF test are given by the following equations.

There are different steps used in the testing of stationary in the variables through the Unit Root Test. In the first step check the order of stationery at the level I (O), if all the variables are stationary at level, then used the Ordinary Least Square method (OLS), if all the variables are stationary at the first difference I (1), and then used the Johansson Julius co-integration analysis. And if the variables have mixed order integration then used the ARDL test. In this study, some variables are stationary at the level and other at the first difference, and then used the ARDL test.

Overall, the empirical results highlight the importance of demographic, socio-economic, and economic factors in shaping health expenditure patterns in high-populated Asian countries. These findings can inform policymakers in formulating effective strategies to allocate resources and improve healthcare financing mechanisms to address the healthcare needs of growing populations in the region.

Estimation of long run coefficients for econometrics model

Table 1: Dependent variable health expenditure

Variable	Coefficient	Std. error	t-statistic	Prob.
LPO	100.51	49.84	2.01	0.057
LUE	-1.01	0.24	-4.28	0.000
LUP	-49.03	30.38	-1.61	0.121
LSE	9.91	3.21	3.08	0.005
LGDP	-6.69	3.00	-2.23	0.036
Mean dep. Variable	0.62		S.D Dep. var	0.54
S.E of regression	0.31		Akaike info criterion	0.58
R	0.89		Schwarz criterion	1.38
Long like li hood	7.39		Hannan-Quinn criterion	0.87

The table 1 provides the results of the empirical analysis conducted to examine the determinants of health expenditure in high-populated Asian countries, as specified by the econometric model.

Variable: This column lists the independent variables included in the regression model.

Coefficient: It represents the estimated coefficients (β values) for each independent variable, indicating the magnitude of the effect of each variable on health expenditure.

Std. Error: This column presents the standard errors associated with the estimated coefficients, indicating the precision of the estimates.

T-statistic: It shows the calculated t-statistic for each coefficient, which tests the null hypothesis that the coefficient equals zero.

Prob: This column provides the p-value associated with each coefficient, indicating the statistical significance of the relationship between the independent variable and health expenditure.

Mean dep. Variable: It represents the mean of the dependent variable (health expenditure), which measures central tendency.

S.D Dep. var: This column displays the standard deviation of the dependent variable, indicating the dispersion of health expenditure values around the mean.

S.E of regression: It denotes the standard error of the regression, representing the average deviation of the observed values from the predicted values.

Akaike info criterion, Schwarz criterion, Hannan-Quinn criterion: These are information criteria used for model selection, with lower values indicating a better fit of the model to the data.

R: It represents the coefficient of determination (R-squared), indicating the proportion of variance in the dependent variable explained by the independent variables.

Based on the results

- The coefficient of LPO (population) is positive and statistically significant at the 5% level, suggesting that an increase in population size leads to a corresponding increase in health expenditure.
- The coefficient of LUE (unemployment) is negative and highly statistically significant, indicating that higher levels of unemployment are associated with lower health expenditure.
- The coefficient of LUP (urban population) is negative but not statistically significant at conventional levels ($p > 0.05$), suggesting that the urban population may not have a significant impact on health expenditure.
- The coefficient of LSE (school enrollment) is positive and statistically significant, implying that higher levels of school enrollment are associated with higher health expenditure.
- The LGDP (GDP growth) coefficient is negative and statistically significant, indicating that higher GDP growth rates are associated with lower health expenditure.

Overall, these results provide valuable insights into the determinants of health expenditure in high-populated Asian countries, highlighting the importance of demographic, socio-economic, and economic factors in shaping healthcare financing patterns.

Table 2: Dependent variable health expenditure

c	coefficient	Std. error	t-statistic	Prob.
COINTEQ01	-0.61	0.19	-3.11	0.005
LPO	-408.39	183.81	-2.22	0.037
LUE	-1.11	1.71	-0.65	0.521
LUP	81.15	279.60	0.29	0.774
LSE	-4.69	1.48	-3.16	0.005
LGDP	2.43	1.97	1.23	0.231
C	-600.17	168.12	-3.57	0.001

The table 2 presents the estimation results of the short-run coefficients for the econometric model with health expenditure as the dependent variable. Here's an explanation of the table:

Variable: This column lists the independent variables included in the regression model.

Coefficient (c): It represents the estimated coefficients (β values) for each independent variable in the short run, indicating the immediate impact of each variable on health expenditure.

Std. Error: This column presents the standard errors associated with the estimated coefficients, indicating the precision of the estimates.

T-statistic: It shows the calculated t-statistic for each coefficient, which tests the null hypothesis that the coefficient equals zero.

Prob: This column provides the p-value associated with each coefficient, indicating the statistical significance of the relationship between the independent variable and health expenditure.

The coefficient of COINTEQ01 is -0.61, and it is statistically significant at the 1% level (Prob. = 0.005), suggesting a significant negative impact on health expenditure. The coefficient of LPO (population) is -408.39, and it is statistically significant at the 5% level (Prob. = 0.037), indicating a significant negative relationship with health expenditure. The coefficients of LUE (unemployment), LUP (urban population), and LGDP (GDP growth) are not statistically significant at conventional levels (Prob. > 0.05), suggesting that these variables may not have a significant short-run impact on health expenditure. The coefficient of LSE (school enrollment) is -4.69, which is statistically significant at the 1% level (Prob. = 0.005), indicating a significant negative relationship with health expenditure. The constant term (C) is -600.17, which is statistically significant at the 0.1% level (Prob. = 0.001), suggesting a significant impact on health expenditure even without independent variables.

These results provide insights into the short-run dynamics of health expenditure in response to changes in the independent variables, highlighting the importance of population size and school enrollment in influencing immediate healthcare financing decisions.

Discussions

Health expenditures involve an incredible portion of government spending plans and consumptions. Governments continually search for approaches to diminish their expenses, and the well-being segment needs to be studied. Even with being compelled to react to individuals, it is incomprehensible for them to lessen their costs explicitly in the health part; along these lines, they are searching for progressively ideal approaches to take care of this issue.

That is why the increase in general wellbeing use has been so significant in recent years. Suppose the issue of low expenditure on health services administrations is not understood. In that case, it will cause significantly more issues like human capital wastefulness, low profitability, low sparing and venture (as an enormous bit of pay is spent on unforeseen weakness and illnesses), and low school enlistment rates. Thus, the financial development of the nation will be influenced. The variables affecting the choices of general health expenditures do not just incorporate natural and organic components but also segment, financial and social elements.

This study has three objectives that are to discover the determinants of health expenditure in highly populated Asian countries. To find the determinants of wellbeing used to measure the economic growth of these countries in the short run. To discover the determinants of health expenditure on the economic growth of this panel in the short run and long run. There are different variables used in this study, i.e. health expenditure (HE), population (PO), urban population (UP), unemployment (UE), gross domestic product growth (GDP), and school enrollment (SE). The panel data of these

variables was obtained from the World Development Indicator (WDI) from 2001 to 2019 in Pakistan and India.

The unit root test is used to stationarise the data. It means to check that the data's mean, variance, and covariance remain stable over time. The most commonly used unit root test is the augmented Dickey-Fuller test (ADF). ADF test is used to remove the autocorrelation problem from the data. ARDL is abbreviated from the autoregressive distributed-lagged model. It is a frequent model used when working with time-series data. It shows the impact of independent variables on the dependent variable in the long run.

The results show that for both highly populated Asian countries, long-run relationships between health expenditure and population, GDP growth, school enrollment, and unemployment are significant. However, health expenditure is not insignificant for the urban population.

At 5%, results show a positive relationship between health expenditure, population, and school enrollment. This positive relationship between health expenditure and the population is that every class of people requires better health conditions for work and better health leads to intelligent students at the school level. The other three variables have a negative relationship with health expenditure. Because unemployed persons do not take care of themselves and their family members due to pollution of industries and transport, the urban population is affected, and Pakistan and India have poor health facilities. Due to this, economic growth is negatively affected in both countries.

The short-run results show that there is a significant effect on population and school enrollment with health expenditure for Pakistan and India. However, there is an insignificant relationship between health expenditure and the urban population, unemployment, and GDP growth. A statistically positive relationship exists between health expenditure and GDP growth and the urban population. In the short run, panels provide better health facilities to the people of their economies. Due to this, health expenditure positively affects the urban population of this region and also economic growth. Therefore, health expenditure has a negative relationship between population, unemployment, and school enrollment at a 5% significance level. Both countries are the most populated in the world, and the unemployment level also increases in this part of the world compared to other developed regions. Population and unemployment are negatively affected by health expenditure.

The discussion of this study appears as follows: public health expenditure is anticipated to have developed by 4.4 per cent in 2018, up from 3.9 per cent in 2017, and reached \$3.6 trillion. Quicker anticipated development in Medicare spending of 1.7 rate highlights (5.9 per cent) drives the anticipated speeding up. As estimated by the individual social insurance cost list, cost development is expected to have expanded from 1.3 per cent in 2017 to 1.7 per cent in 2018 due basically to quicker economy-wide expansion.

National health expenditures are anticipated to develop by 4.8 per cent in 2019, up from 4.4 per cent in 2018, and reach \$3.8 trillion. Higher expenses for administration instalment refreshes are relied upon to bring about quicker health expenditure development (7.1 per cent), while extended qualification for Medicaid in Idaho, Maine, Nebraska, Utah, and Virginia is anticipated to add to quicker health expenditure development (from 2.2 per cent in 2018 to 4.8 per cent in 2019). To some degree, lower private medical coverage enlistment identified with the nullification of the Affordable Care Act's order is required to be somewhat counterbalanced by gains in different sorts of health inclusion and result in a slight decrease in the guaranteed portion of the populace in 2019 (90.6 per cent contrasted with 90.9 per cent in 2018).

Conclusion

Analyzing the determinants of health expenditure in high-populated Asian countries yields valuable insights into the complex dynamics shaping healthcare financing in the region. The study's findings provide a basis for understanding the factors driving health expenditure patterns and informing evidence-based policy interventions to improve population health outcomes.

Population dynamics: The empirical analysis reveals that population size significantly influences health expenditure, with larger populations associated with higher healthcare spending. This underscores the importance of demographic factors in healthcare resource allocation and planning, particularly in rapidly growing and densely populated Asian countries.

Socioeconomic factors: Unemployment and urban population, while not statistically significant in the short-run analysis, may still play important roles in shaping health expenditure patterns over the long term. Future research could explore the nuanced relationships between these socioeconomic variables and health expenditure to understand their implications for healthcare financing strategies better.

Education and health: The study highlights a significant positive relationship between school enrollment and health expenditure, suggesting that investments in education may lead to improved health outcomes and increased healthcare utilization. This underscores the importance of addressing educational disparities and promoting literacy and awareness as complementary strategies for enhancing healthcare access and quality.

Economic growth: While GDP growth does not exhibit a statistically significant relationship with health expenditure in the short-run analysis, it remains an essential determinant of healthcare financing dynamics over the long term. Policymakers should prioritize sustainable economic development strategies that foster inclusive growth and generate resources for investment in healthcare infrastructure and services.

Policy Implications

The findings of this study have significant implications for healthcare policy formulation and resource allocation in high-populated Asian countries. Policymakers should prioritize investments in healthcare infrastructure, human resources, and technology to meet the growing demand for healthcare services driven by demographic and epidemiological transitions. Additionally, efforts to address social determinants of health, such as education and employment, should be integrated into broader health policy frameworks to promote equitable access to healthcare services and improve population health outcomes.

In conclusion, the determinants of health expenditure in high-populated Asian countries are multifaceted, encompassing demographic, socioeconomic, and economic factors. By understanding these determinants and their implications, policymakers can develop targeted interventions to strengthen healthcare systems, enhance healthcare access and quality, and ultimately improve population health outcomes in the region. Further research is warranted to explore the dynamic relationships between these determinants and health expenditure over time, facilitating more nuanced and effective policy responses to the evolving healthcare needs of high-populated Asian countries.

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