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The Global South political economy of health financing and spending landscape – history and presence

Mihajlo Jakovljevic^{a,b} , Yansui Liu^c, Arcadio Cerda^d , Marta Simonyan^e, Tiago Correia^f, Richard M. Mariita^g, Ajantha Sisira Kumara^h, Leidy Garcia^d , Kristijan Krsticⁱ, Romanus Osabohien^j, Tran Khanh Toan^k, Chiranjivi Adhikari^{l,m} , Nguyen Thi Kim Chuc^k , Resham B. Khatriⁿ , Vijay Kumar Chattu^o, Liang Wang^p, Tissa Wijeratne^q, Eugene Kouassi^r, Habib Nawaz Khan^s and Mirjana Varjacic^t

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ABSTRACT

The Global South nations and their statehoods have presented a driving force of economic and social development through most of the written history of humankind. China and India have been traditionally accounted as the economic powerhouses of the past. In recent decades, we have witnessed reestablishment of the traditional world economic structure as per Agnus Maddison Project data. These profound changes have led to accelerated real GDP growth across many LMICs and emerging countries of the Global South. This evolution had a profound impact on an evolving health financing landscape. This review revealed hidden patterns and explained the driving forces behind the political economy of health spending in these vast world regions. The medical device and pharmaceutical industry play a crucial role in addressing the unmet medical needs of rising middle class citizens across Asia, Latin America, and Africa. Domestic manufacturing has only been partially meeting this ever rising demand for medical services and medicines. The rest was complemented by the participation of multinational pharmaceutical industry, whose focus on investment into East Asia and ASEAN nations remains part of long-term market access strategies. Understanding of the past remains essential for the development of successful health strategies for the present. Political economy has been driving the evolution of health financing landscape since the establishment of early modern health systems in these countries. Fiscal gaps these governments face in diverse ways might be partially overcome with the spreading of cost-effectiveness based decision-making and health technology assessment capacities. The considerable remaining challenges ranging from insufficient reimbursement rates, large out-of-pocket spending, and lengthy lag in the introduction of cutting-edge technologies such as monoclonal antibodies, biosimilars, or targeted oncology agents, might be partially resolved only in the long run.

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The Global South in world economic history

Health and disease in the antiquity and middle ages

The polarization of the world economy on the rich industrialized northern hemisphere and significantly less wealthy developing nations of the southern hemisphere dates back

mainly to the Colonial Era. If we dig deeper into the Medieval Era or Antiquity, we shall observe that nothing close to this contemporary division was reality. Actually, for most of the written past, the Orient in its broadest sense was a symbol of welfare, prosperity, and advancement in knowledge and technology¹. The economic history of

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mankind teaches us that if a certain state's ability to extract gold was the prime indicator of national wealth, the wealthiest country ever in written history appears to be Empire of Mali in Western Africa during the reign of Mansa Musa (c.1312–c.1337)².

According to both Western chronicles such as those of Marco Polo³ and Eastern Court chronicles of Imperial China⁴, most mainstream historians of the world economy nowadays recognize that China and India were the economic core of the Old World for most of the past two millennia^{5,6}. This is carefully documented and elaborated in Agnus Maddison Project data, which has attempted to reconstruct approximate participation of ancient statehoods, their predecessors, and descendant cultures during the past 2,000 years⁷. This ambitious research has encircled all most prominent statehoods, ranging from the Roman Empire to the West, going eastwards over Arabic Caliphates and the Byzantine Empire to Persia, several consecutive India's governments through centuries ranging from King Ashoka to Mogul's Dynasty up to Imperial China and Indo-Chinese Kingdoms.

European nations and their descendant colonial cultures are represented with Tsarist Russia, Imperial Britain, France and Netherlands, German statehoods, and Austro-Hungarian and Turkish Ottoman Empires. Africa was represented with the Empire of Mali, Egyptian statehood traditions, the Ethiopian Kingdom, and Great Zimbabwe. Yet all of these long-lasting monarchies whose influence and participation in global trade extended hundreds of miles beyond their borders, point out to the few mainstream features of ancient economic systems. A common denominator of the strength of a certain economic system was primarily its ability to mine and manufacture noble metals, primarily gold⁸. The emission of gold was surprisingly at the height of the Roman Imperial Era around 1 AD, a dozen times larger than the joint one of the Byzantine Empire, Arabic Caliphates, and all small medieval European kingdoms 1,000 years later, around 1,000 AD⁹. During most antiquity, these ancient economies were based on slave work in the East and West alike. Free peasant work dominated most of Medieval Feudalism¹⁰.

The late modern period since the eighteenth century

Ultimately urban development was driven by the rise of early factories through the multiple consecutive industrial revolutions commencing in England in the 1740s¹¹. These evolving changes in the economic landscape have gradually reshaped the way that agricultural exploitation of arable land and cattle breeding was taking place¹². Fundamentally, energy consumption was gradually growing. With more efficient food production, the high fertility rate of historical populations led to improved early childhood survival¹³.

Coupled with the advancements of modern medicine, improved housing, better water and food safety, and drainage of wastewater eventually led to the extended life expectancy of people and improved longevity¹⁴. This rise of medicalization¹⁵ and demography are essential consequences of the expansion of "nation states", which bounds politics with cultural, ethnical and religious unicity, and, hence,

growingly individual life is collectively shaped and monitored.¹⁶ This was notably beneficial, leading to the expansion of the labor force and rapid demographic explosion¹⁷ in many world regions during the past three centuries. However, it had one essential backdrop. Populations were expanding much faster than the ability to adapt national socioeconomic support systems, housing, and education capacities¹⁸. A colorful example is that approximately 300 million people moved from the village and countryside to the cities in Western Europe and North America during the industrialization era¹⁹. The same process at a vast scale across most of Eur-Asia is now shifting approximately three billion people from rural to urban areas²⁰.

Since most of this process has been taking place since the second world war (WWII) in a span of only half a century, the scale of demographic pressure is being obviously generated this way²¹. This is most obvious in the modern-day Asian megacities²² of coastal industrial areas ranging from Moscow and Istanbul to Mumbai, Delhi, Shanghai, Beijing, Jakarta, Tokyo-Yokohama conurbation, and so on.

During the nineteenth and twentieth centuries, some essential events took place that shaped the contemporary momentum across Asia, Africa, and Latin America. India and China remained the wealthiest nations and strongest participants in the global economy until the late eighteenth century²³. Commencing from the early nineteenth century, Colonial Age centuries-long brutal economic policies of exploitation have harvested their goal²⁴. A tremendous amount of national wealth has left India, China, and surrounding traditions and moved primarily to the Western European colonial powerhouses²⁵. Much later, a share of this wealth ended up in their colonial descendant cultures ranging from North America to Australasia. It is crucial to understand that the gradual economic recovery of what is nowadays known as the Global South began mostly after WWII²⁶.

Triggered by liberation movements led by Mahatma Gandhi²⁷, Nelson Mandela²⁸, Patrice Lumumba²⁹, Thomas Sankara, Samora Machel, and other leaders of prominence during the 1960s, things began to change³⁰. At the mutually overlapping interests of superpowers of the Cold War Era, the Soviet Union (USSR), and the USA, the birth and rise of the Non-Aligned Movement³¹ was allowed. Effective losers of these transnational associations strengthening were old Western European colonial empires³². Early after WWII, during the 1950s and 1960s in the early Cold War era, Britain, France, Netherlands, Portugal, Spain, and Belgium lost most of their remaining overseas possessions or those most valuable ones in economic terms³³.

Some limited influence remained within the British Commonwealth structure, French Pan-African commitments, or traditional connections in education and cultural sphere between the colonies and their imperial statehood core nations³⁴. Typically, most esteemed schools in Congo were those run by Belgian authorities. In Vietnam and the rest of French Indo-China, there used to be a similar case before the French-Vietnamese war of liberation^{35,36}. Many decades later there remain even animosities between the former colonies

and their master, such as Korean youth nowadays being reluctant to learn the Japanese language and culture³⁷. Similar cases have been observed in many world regions, such as formerly French Algeria or Caribbean islands³⁸. The remnants of this process continue today. Commencing with 1945³⁹ there were four consecutive and a half decades of Cold War superpower rivalry (1945–1991)⁴⁰. The power vacuum created by the withdrawal of Western European political, economic, and military control was mostly filled by the expanding USA or USSR's influence⁴¹.

Political economy of health financing after the end of the Cold War

Among the two models, a capitalist free-market economy was more appealing in most of Latin America, some African nations such as Morocco, South Africa, and Thailand, Singapore, and some ASEAN nations in Asia⁴². Others were heavily influenced by Marxist ideas and the socialist model of a state-controlled economy⁴³. Typical cases were Cuba, Venezuela, and Bolivia in the Western hemisphere, while Egypt, Ethiopia, many Sub-Saharan African countries, and China, Yemen, and Vietnam in Asia⁴⁴. Countries near the USSR continental rim and its Warsaw Pact Alliance were all heavily influenced by the socialist model of development⁴⁵. The end of the Cold War during 1989, the fall of the Berlin Wall, and the 1991 voluntary dissolution of USSR in Beloveska Suma brought new turbulent times across the Globe. Immediately dozens of civil wars, revolutions, or borderline conflicts were sparked in regions alongside former separation lines of the two worlds⁴⁶.

The accelerated globalization model followed with the rapid expansion of large multinational businesses into most formerly communist countries⁴⁷. This was even the case with Russia and China themselves, although via two distinctively different historical pathways. The first was nicknamed “shock therapy”⁴⁸ and led to the catastrophic impoverishment⁴⁹ of the once second richest global economy, lagging only behind the US for almost 30 years⁵⁰. It ended up creating a newly established capitalist elite, while a massive amount of national wealth had left the USSR and Russian Federation towards diverse offshore companies and foreign stock markets⁵¹. At the same time, this rapid and unbalanced process created substantial social disparities⁵² in income and living standards in the vast country that was once reputed for its social justice and order⁵³. The Russian recession hit its bottom around 1998⁵⁴ and effectively dragged all Eastern European satellite economies with it⁵⁵. Recovery was gradual but successful, and Russia was classified by the World Bank Atlas method as a high-income economy as of August 2013⁵⁶. Its substantial gold reserves and low foreign debt, with minor ruble devaluation, remain the landmarks of a relatively stable national economy⁵⁷, even today in October 2021⁵⁸.

The case with the Chinese departure from the traditional Marxist model towards a more market-based economy was far more gradual and successful in its outcomes. Instead of adopting risky political reforms shaped after Soviet

Perestroika⁵⁹, Chinese authorities decided for economic transformation that should precede the governing system evolution for many years. It began with well-known Deng Xiaoping's reforms as early as 1978/79. Nevertheless, their true impact in everyday Chinese life, economy, and trade began to be felt mostly after 1989⁶⁰. The rest of the Chinese rise to the stage of the richest global economy in purchase power parity was documented by International Monetary Fund rankings as of September 2014 where the People Republic of China was classified in PPP terms as the largest global economy^{61–63}. This unseen economic miracle of double-digit positive real GDP growth (+9% to +11%) during the period of almost 40 years has created an abundance of wealth in mainland China. This process has led to almost 800 million people being lifted from the poverty line with secured housing, nutrition, basic healthcare, and successful agrarian policies⁶⁴. It has also created constant and ever-growing gaps in trade deficits with both the EU and the US with China, which has created geopolitical instability in recent years⁶⁵. China acting as the hotbed and an engine of Pan-Asian development was closely associated with the upward pathway adopted by most ASEAN and surrounding South Asian countries. The rapid expansion of China–ASEAN trade now significantly exceeds the annual value of similar trade between countries and the US and European Union across the Atlantic Ocean⁶⁶.

According to some mainstream sources, China–ASEAN trade has grown considerably, multiplying itself 85-times so far during the past 30 years⁶⁷. These beneficial circumstances have created room for opportunity for accelerated development for many regional players⁶⁸. Typically, it was most visibly exploited by large nations ranking themselves among the most prosperous emerging markets, such as India and Indonesia⁵⁷.

Global South economic transformation – consequences for healthcare sector

The Global North impact on health financing in the Global South

Medical traditions across Asia, Africa, and Europe date back to antiquity. Many of these national legacies ranging from ayurvedic medicine to Persian and Chinese Traditional Medicine are amongst the largest systems of knowledge in the history of medicine. Probably the most striking example is Persian philosopher Avicenna's (Ibn Sina 980–1037) huge book collection known in the Medieval Era as *Al-Qānūn fī at-ṭibb* (The Canon of Medicine) compiled 1025 AD⁶⁹, which is broadly regarded as the largest script ever written by the hand of a single writer in the history of mankind⁷⁰. Traditional leadership of flagship Asian cultures in the ancient world has lost its primacy during the Colonial Era and particularly during the eighteenth and nineteenth centuries.

Rehabilitation of these cultures primarily began after the success of their liberation movements, with the most prominent case of India under Mahatma Gandhi^{71,72}. A comparable scale of events took place in China after the epilogue of

the civil war and The Long March, leading to the establishment of the People's Republic of China in 1949⁷³. The economic development of many of these vast nations was mostly hindered during the Cold War decades by an array of public health and socioeconomics issues⁷⁴. Most common were widespread poverty⁷⁵ and even hunger⁷⁶, the striking impact of traditional infectious diseases, poor housing in many regions, and huge inequity between their rich elites and folk masses⁷⁷.

Early childhood mortality and maternal morbidity related to childbearing age and pregnancy were additional problems standing high on the agenda of most South Asian nations for many years⁷⁸. As the economic growth and living standards were rising, many things changed in everyday reality from Pakistan to the Philippines and from South Korea to Indonesia⁷⁹. These national health systems were largely inherited and developed from Colonial Era legacies. They might have brought some important European achievements such as the Bismarck style of risk-sharing⁸⁰ via health insurance plans or Beveridge system's tax payment and Soviet-influenced countries may have benefited from its Semashko system pioneering universal health coverage back in the 1930s⁸¹. Most European inventions in health financing mechanisms were the authentic outcome of long European development with the network of supporting health institutions ranging from the tax system to the central government authority capable of imposing mandatory payments for health insurance via single or multiple payer models. In either scenario these strategies could hardly be applicable to inherently different societies with another inner class structure of wealth and hierarchy. Simply these Europe-tailored economic policies were rather unfeasible or unsustainable in societies⁸² such as Latin American and Balkan nations at the time of their creation, mostly during the twentieth century⁸³. South Asian countries remain heavily dependent on foreign donor aid, particularly to combat tuberculosis, malaria, and HIV challenges in Sub-Saharan Africa⁸⁴. Out-of-pocket payments remain the core bottleneck inefficiency issue which remains high even at the governing agendas of leading emerging BRICs nations⁸⁵. In reality, it means that poor rural households frequently slip into poverty and debt trap due to severe and expensive diseases of a family member, such as cancer or cardiovascular disorders. This phenomenon is known as catastrophic health spending. Next to this one, there are prominent difficulties to access to advanced secondary or tertiary hospital care. This is particularly the case with intensive care unit admissions.

Education and emancipation of women alongside the spreading of the sexual revolution outside the Collective Western culture were surprisingly most rapid in the USSR and its geopolitical sphere of influence. Due to the fact that communism's ground theory was rooted in industrial manufacturing, a large female labor force was necessary to achieve the Five-Year Plans⁸⁶. These plans, originally deployed by Stalin's government in the early USSR, were later adopted by the People's Republic of China. Unlike the popular opinion among western mainstream economists, these plans were exceptionally successful in lifting these huge countries out of

poverty. Many decades later, these huge scale development models were exceeded in industrial expansion, leading to the rise of megacities in modern China. The national process began mostly in the early 1980s and culminated in unseen welfare and economic prosperity in the late 2010s⁸⁷. Such upward pathways have made legitimate civil claims for improved access to advanced and expensive healthcare technologies. Vulnerable, rural, and poor citizen layers are gradually becoming better protected from associated health risks. Indeed, China, Japan, South Korea, Taiwan, Hong Kong SAR, and Singapore all adopted ambitious health insurance expansion plans which were made a reality in recent years. Many other ASEAN nations, notably Vietnam, Thailand, Malaysia, Indonesia, and the Philippines, adopted ambitious long-term governmental strategies to achieve universal health coverage⁸⁸.

One of the prominent hurdles faced by South-East Asian nations is accelerated population aging. Just like everywhere else in the world, the absorption of women into the labor markets has led to decreased female fertility⁸⁹ (number of children being born during her childbearing age)⁹⁰. In poor Arab countries of the Middle East and Northern Africa, fertility has already fallen from the traditional seven to three children per woman⁹¹. In wealthy Arab Gulf Countries (GCC) this is around the threshold of 2.1 or even below⁹². In Far East Asia populations the aging landscape is much worse. Its advanced stage consequences for the fiscal sustainability of the social protection and health financing were heavily documented on Japanese experience. However, as we approach 2050 China is becoming the fastest aging large nation⁹³. This was largely attributable to the One Child policies but also to the general transformation of the way of life in an industrialized, urban society. This meant migration from agricultural traditional hard work in the field towards primarily sedentary lifestyles and frequently intellectual jobs in the cities. The shrinking base of taxpayers due to lower fertility is worsened with the ever-expanding pool of senior retired citizens⁹⁴. Since pension funds tend to devalue over time, the contribution of a young and capable workforce to the needs of the elderly is inevitably essential. Here comes the fact of the "last year of life" phenomena where major healthcare resources are spent. The "end of life" expenses due to incurable diseases were proven in health economics theory to be approximately equal to the entire lifetime medical consumption of an individual citizen⁹⁵.

The problem itself is the expanding pool of people suffering from various clinical forms of dementias given the extended human longevity. This prominent neurological degenerative disorder traditionally relied on so-called family caregiving. Sons and daughters provided care for their elderly patients. Once the traditional family had three children or more it was almost certain that one of them shall remain committed to this uneasy task. Yet nowadays, when the prevailing social model is a one-child family, reliance on family care giving has to be replaced by institutional care provided by homes for the elderly. In traditional societies ranging from Eastern Europe to Western Pacific nations, putting your

parents into a public care institution was broadly regarded as immoral and with a heavy social stigma⁹⁶.

In recent years these patterns have been gradually changing, although reluctantly. This is because aging societies miss the capacity of youth to handle this burden effectively. Home-based medical care provided by temporary nursing staff is one of the many solutions being imposed.

Challenging epidemiological transition in the Global South

These issues are additionally made more difficult with the vast and ongoing transformation of morbidity and mortality structure. Traditional societies of Africa, India, Sri Lanka, Nepal, and most ASEAN nations heavily dominated their morbidity structure by maternal, pregnancy-related issues, early childhood survival, traumatism, and infectious diseases. This same epidemiology landscape was actually historically presented in Europe itself before industrial revolutions and large-scale urbanization. Although such diseases might be life-threatening, they were once made curable through achievements of sanitary measures, wastewater drainage, vaccines, and antibiotics.

Unlike them, truly new and uncommon diseases were taking their place more frequently with the expansion of sedentary unhealthy lifestyles. They were nicknamed “prosperity diseases” or Non-Communicable Diseases (NCDs). Cardio and cerebrovascular disorders, cancer, mental illnesses, diabetes and chronic obstructive pulmonary disorder (COPD), and terminal kidney failure all had prominent common features. They were lifetime diseases, chronic expensive, and frequently incurable, but symptoms could be controlled substantially. Simply they assumed procedures like insulin, renal dialysis, or lifetime medications being mandatory for survival. At the same time these technologies are almost prohibitively expensive for the health systems of low-income countries and exceptionally difficult to fund for middle income ones⁹⁷. This means that NCDs now have a vast prevalence and incidence pool of patients, while conventional infectious diseases have been defeated in an epidemiological sense. This paradoxical situation has created a double burden of NCDs and communicable diseases even in countries in a rather juvenile stage of population aging like India⁹⁸. These and many other difficult health policy challenges are being attempted to resolve in an array of approaches. Yet significant shares of the general population remain unprotected with their insurance plans, and not only those in proximity to the poverty line. Primary medical care, emergency hospital admissions, and access to essentials are mostly provided and guaranteed to the ordinary citizen. In addition, advanced surgery, particularly those involving implants, invasive radiology diagnostics, and innovative pharmaceuticals are hardly accessible outside the richest in this group. Their administration is mostly involved with months or years-long waiting lists or significant out-of-pocket co-payments by the patient and his family. In both scenarios this might mean that patients do not get their medical care timely or cannot afford it at all.

Though there have been improvements, albeit a slow process, addressing the continued systematic barriers in the development and expansion of quality care for patients with NCDs is integral. This concern has been approached in a multitude of contexts as the issue of quality of care is diffused in a variety of regions and countries. For example, Godman et al.⁹⁹ assessed the current climate of care experienced by patients with type 2 diabetes in sub-Saharan Africa. The implications of this study provide insight on current activities and utilize those as a pathway for recommended activities. For example, in the portion of “suggested activities among national governments and authorities” they recommended the prioritization of screening and the improvement of availability of medicines in the public sector among others. Pharmaceuticals are the cornerstone of the control of diabetes and capitalizing on implemented initiatives such as the one in South Africa, Central Chronic Medication Dispensing and Distribution (CCMDD). The improvement of this already placed infrastructure was to provide high-quality generic options of medications while increasing the accessibility in an ascertainable way. Though the publication ideas and propositions can be levied towards addressing the challenging epidemiological transition in the Global South.

Health financing strategies to tackle challenges in the Global South

Identification of some prominent cases of particularly large nations and the one most rapidly developing across the global South belongs to the case of BRICS (Brazil, Russia, India, China, South Africa) or EM7 (BRIC + Mexico, Indonesia, and Turkey). These are flagship economies across the developing world and the LMICs countries and their notable trends in health spending point out to the broader landscape⁵⁷. India, for example, remains at a steady GDP share even contracting from 4.06% of GDP back in 1995 to 3.97% of GDP two decades after. Other BRICs increased their total health expenditures substantially: Brazil for +3%, China +2%, South Africa +1.5%, and Russia +1.2% in the same time horizon of the most accelerated development. Most Emerging Markets have enjoyed abundant growth of welfare and living standards since the beginning of the twenty-first century¹⁰⁰. Thus, it should be noted that even steady pace of spending in terms of GDP share meant a bold rise in absolute per capita spending both in nominal and purchasing power parity (PPP) terms. Another notable example is wealthy Arab Gulf Countries (GCC) whose economy largely relies on fossil fuels. Yet these nations being high-income countries tend to spend only around 3% of GDP for entire healthcare in absolute terms. If it is compared with 8.5% to 10% even in middle income Eastern European and Balkan nations, the difference is obvious¹⁰¹. Some important lessons can be derived. Expanded tax base due to strengthened economy, blossoming domestic businesses, and foreign direct investment in many emerging markets did not transfer straight forward into an increased health spending. It appears that governments in many of these regions had other priorities such as

large infrastructural projects (typically Russia, Turkey) or military spending (Saudi Arabia) or other sectors such as tourism and agriculture (to the expense of healthcare).

With the establishment of health technology assessment in recent years, the establishment of health technology assessment framework provides rational decision-making in health financing strategies. Not only will this assessment aid in the current climate of understanding necessary coverage, but it has recently looked to be applied in the context of new medicines and their value. Not only assessing the benefits of modern technologies but medicines as well provides a natural pathway to determining proper and thoughtful implementation of these resources. It also provides a different perspective, rather than looking through the lens of those who stand to profit but looking from the point of view of the consumer.

Political agendas like these might have been justified in the old postwar decades when these societies were young, their economies far less productive and competitive on a global scale, and their populations healthier. But the contemporary demographic landscape is profoundly different across most of the Global South, with notable exceptions of Sub-Saharan Africa and Afghanistan. Most of the remaining nations, ranging from Chile to Serbia and Korea to Vietnam, face accelerated population aging and fertility declines¹⁰². Their populations are facing a tremendous burden of chronic expensive non-communicable diseases. Networks and hospital facilities across their rural peripheries need to be strengthened further to cover unmet medical needs of hundreds of millions of people living in the countryside, far away from large urban cores. It is essential to building awareness of policymakers across the Global South to increase their national health expenditures as much as possible. Here another subtle causal connection is frequently omitted from their attention. It is the feedback loop of healthy population's effect to overall societal economic productivity. This has been proven to be a strong positive relationship which means that investment into the people's health today means harvesting net income and revenues for the national budget tomorrow. It is not only about cost savings and cost containment policies. It is a far more complex equation and health financing streams need to be balanced from several distinct approaches.

In addition to these complexities, it should be noted that donor aid for health has been shrinking in many countries in recent years. Also, there is evident supremacy of foreign humanitarian aid spending for malaria, HIV, COVID-19, and tropical diseases¹⁰³ against far more complex and demanding to treat NCDs¹⁰⁴. It is a big problem since diabetes mellitus is a rapidly expanding pandemic across Eastern Mediterranean countries, particularly Arab League nations and the deeper Middle East¹⁰⁵. China and Far East Asian nations face the expanding burden of cholangiocarcinoma and hepatocellular carcinoma (liver cancer), primarily driven by the prevailing of unhealthy fast food urban diets against traditional ones¹⁰⁶. Change in nutrition patterns alongside sedentary lifestyles and lack of exercise is responsible for many forms of chemical toxicity-induced oncogenesis.

Traditional food preparation took much more time in comparison to conserved off-the-shelf semi-prepared products¹⁰⁷. Coupled with long hours of hard fieldwork, it made our ancestors much healthier than modern generations enjoying living standards previously unthinkable to many parts of Asia. This new age of prosperity brings room for opportunity to many young people seeking employment and migration from village to the city¹⁰⁸. State-sponsored education at public universities has contributed a lot to the ability of industrial regions to integrate massive flux of newcomers for decades¹⁰⁹. The time is coming to consolidate and stream the significant share of disposable public income with a moderate private citizen participation into the universal health coverage project¹¹⁰. This UHC challenge remains high at stakes in many countries across the Global South. The case is even stronger given the fact that UHC is a constitutive element of the UN-proclaimed Sustainable Development Goals¹¹¹. How much this array of diverse national health policies and priorities will manage to increase accessibility and affordability of medical care to the ordinary citizens remain to be seen as we approach 2030.

Conclusive remarks

The Global South hosted some of the wealthiest economies worldwide until the eighteenth century. During the post-industrial era, the Global North has influenced heavily in political and economic policies of the countries of these regions. Despite rich cultural legacy, values of social solidarity in the south, socioeconomic policies are tilting towards the north. The majority of countries in the south have adopted market-driven economic policies with varying degrees of regulation by the state. In the context of new millennia global health policies, including the political economy of health financing, are shaped by values of the global north, their soft power diplomacy, and designed and implemented across the nations of the Global South through multilateral, bilateral, and non-governmental organizations, and individual charity foundations. These external ideas, institutions, and policies might not solve the contextual problems without considering inner stakeholders of the south. Global South has diverse characteristics in terms of demographic profile, governance systems, and epidemiological patterns of diseases. Funding in the health sector in the Global South is relatively insufficient and countries' priorities are other than the health sector including infrastructure development. Despite the huge economic potential, the Global South has more to do in strengthening the health system and healthcare financing to address the triple burden of communicable, maternal and child health and undernutrition, and non-communicable and reemerging/newly emerging diseases. Further implantation and utilization of the health technology assessment would aid in the facilitation of determining benefits, barriers, and risks. First, countries in the region require an increase in the domestic health funding according to contextual priorities. Second, at the proximal end, communities and individuals should focus on modifying their lifestyles, living and working conditions, and dietary habits, for the prevention of non-

communicable diseases. In the long run, such behavioral approaches could potentially reduce healthcare costs and out-of-pocket expenditure of individual citizens. Third, the specific problems of countries of the Global South are poor governance and undermanaged systems rather than lack of resources. Therefore, overall governance, regulation, civil order, rule of law, accountability, and good governance are the primary underlying institutional capacities that would allow fiscal sustainability of healthcare financing in the long run.

Transparency

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References

- [1] Fischel WJ. The spice trade in mamluk Egypt: a contribution to the economic history of medieval Islam. *J Econ Soc Hist Orient*. 1958;1(2):157–174.
- [2] Sutton JEG. The African lords of the intercontinental gold trade before the Black Death: al-Hasan bin Sulaiman of Kilwa and Mansa Musa of Mali. *Antiq J*. 1997;77:221–242.
- [3] Akbari SC, Iannucci A. 2016. Marco Polo and the encounter of East and West. Toronto (Canada): University of Toronto Press. <https://doi.org/10.3138/9781442688582>
- [4] Von Glahn R. 2016. An economic history of China: from antiquity to the nineteenth century. Cambridge: Cambridge University Press.
- [5] Kosambi DD. 1965. The culture and civilisation of ancient India in historical outline. Vol. 358. London: Routledge and K. Paul.
- [6] Barnett LD. 1914. Antiquities of India: an account of the history and culture of ancient Hindustan. New York: GP Putnam's Sons.
- [7] Agnus Maddison Project. 2020. <https://www.rug.nl/ggdc/historicaldevelopment/maddison/?lang=en>
- [8] Banaji J. 2002. Agrarian change in late antiquity: gold, labour, and aristocratic dominance. Oxford: Oxford University Press.
- [9] Millar F. Condemnation to hard labour in the Roman Empire, from the Julio-Claudians to Constantine. *Pap Br Sch Rome*. 1984; 52:124–147.
- [10] Stein B. Politics, Peasants and the deconstruction of feudalism in medieval India. *J Peasant Stud*. 1985;12(2–3):54–86.
- [11] Deane PM, Deane PM. 1979. The first industrial revolution. Cambridge (UK): Cambridge University Press.
- [12] Liu Y, Fang F, Li Y. Key issues of land use in China and implications for policy making. *Land Use Policy*. 2014;40:6–12.
- [13] Ogura S, Jakovljevic MM. Global population aging-health care, social and economic consequences. *Front Public Health*. 2018;6: 335.
- [14] Jakovljević M. Population ageing alongside health care spending growth. *Srpski arhiv za celokupno lekarstvo*. 2017;145(9): 534–539.
- [15] Correia T. Revisiting medicalization: a critique of the assumptions of what counts as medical knowledge. *Front Sociol*. 2017; 2:14.
- [16] Foucault M. 1979. Discipline and punish: the birth of the prison. New York (NY): Vintage/Random House.
- [17] Kelley AC. Economic consequences of population change in the Third World. *J Econ Lit*. 1988;26(4):1685–1728.
- [18] Rogers A, Williamson JG. Migration, urbanization, and third world development: an overview. *Econ Dev Cultur Change*. 1982;30(3):463–482.
- [19] Olgiati A, Calvo R, Berkman L. Are migrants going up a blind alley? Economic migration and life satisfaction around the world: cross-national evidence from Europe. *Soc Indic Res*. 2013; 114(2):383–404.
- [20] Østby G. Rural–urban migration, inequality and urban social disorder: evidence from African and Asian cities. *Confl Manag Peace Sci*. 2016;33(5):491–515.
- [21] Prestowitz CV. 2007. Three billion new capitalists: the great shift of wealth and power to the East. New York (NY): Basic Books.
- [22] Jakovljevic M, Sugahara T, Timofeyev Y, et al. Predictors of (in) efficiencies of healthcare expenditure among the leading Asian economies—comparison of OECD and non-OECD nations. *RMHP*. 2020;13:2261–2280.
- [23] Liu X. Ancient India and Ancient China. Trade and religious exchanges AD 1–600. New Delhi: Oxford University Press; 1988.
- [24] Cavallar G. Vitoria, Grotius, Pufendorf, Wolff and Vattel: accomplices of European colonialism and exploitation or true cosmopolitans. *J Hist Int Law*. 2008;10(2):181–209.
- [25] Andrews KR, Andrews KR, Gray JA. 1984. Trade, plunder and settlement: Maritime enterprise and the genesis of the British Empire, 1480–1630. Vol. 5. Cambridge: Cambridge University Press.
- [26] Chandra R. 2003. Industrialization and development in the Third World. London (UK): Routledge.
- [27] Dikshit O. The impact of Mahatma Ghandi on Martin Luther King, Jr. *Negro Hist Bull*. 1975;38(2):342–344.
- [28] Mandela N. 1990. Nelson Mandela: the struggle is my life: his speeches and writings brought together with historical documents and accounts of Mandela in prison by fellow-prisoners. Mumbai (India): Popular Prakashan.
- [29] Пономаренко ИВ. 1989. Патрис Иумумба: Жизнь во имя свободы Африки. Федеральное государственное автономное образовательное учреждение высшего образования Российский университет дружбы народов (РУДН).
- [30] Davidson A. The Turn in African History. For the 60th anniversary of the Year of Africa. *Novaia i noveishaia istoriia*. 2020;(3): 130–137.
- [31] Miskovic N, Fischer-Tiné H, Boskovska N, editor. 2014. The non-aligned movement and the cold war: Delhi-Bandung-Belgrade. London: Routledge.
- [32] Waters A. 3.1 The Non-Aligned Movement, the Soviet Union and decolonisation in Africa. In *Places in the Sun*. Brussels (Belgium): Institute for a Greater Europe; 2021. p. 159.

- [33] Dinkel J. 2015. "Third world begins to flex its muscles" 1: the Non-Aligned Movement and the North-South conflict during the 1970s. In *Neutrality and neutralism in the Global Cold War*. London (UK): Routledge. p. 108–123.
- [34] Muswede T, Lubinga E. Global media hegemony and the transformation bliss in post-colonial Africa-real independence or change of masters? *Afr J Public Aff*. 2018;10(2):82–96.
- [35] Moyer M. 2006. *Triumph Forsaken: the Vietnam War, 1954–1965*. New York: Cambridge University Press.
- [36] Hutchcroft PD. Colonial masters, national politicians, and provincial lords: Central authority and local autonomy in the American Philippines, 1900–1913. *J of Asian Stud*. 2000;59(2):277–306.
- [37] Ok G. The political significance of sport: an Asian case study—Sport, Japanese colonial policy and Korean national resistance, 1910–1945. *Int J Hist Sport*. 2005;22(4):649–670.
- [38] Girvan N. 2012. Colonialism and neo-colonialism in the Caribbean: an overview. In *IV International Seminar Africa, The Caribbean And Latin America, St. Vincent and The Grenadines*.
- [39] Васильченко АА. 2018. Место СССР в американской пропаганде в начале Холодной войны 1946–1949 годов.: выпускная бакалаврская работа по направлению подготовки: 41.03. 05-Международные отношения.
- [40] Egorova N. Assessment of the USSR in the Cold War. *ISTORIYA*. 2019;(520).
- [41] Jerónimo MB, Pinto AC, editors. 2016. *The ends of European Colonial Empires: cases and comparisons*. Berlin: Springer.
- [42] Meernik J, Krueger EL, Poe SC. Testing models of US foreign policy: foreign aid during and after the Cold War. *J Polit*. 1998; 60(1):63–85.
- [43] Калинин АА. Холодная война между США и СССР: современный российский взгляд. *Вестник гуманитарного образования*. 2019;(2):91–99.
- [44] Zhang SG. 2001. *Economic Cold War: America's Embargo against China and the Sino-Soviet Alliance, 1949–1963*. Stanford: Stanford University Press.
- [45] Gromyko AA. Could the Cold War have ended earlier? Presentation of the problem (in commemoration of 110th anniversary of Andrei Gromyko). *Mirovaia ekonomika i mezhdunarodnye otnosheniia*. 2019;63(10):109–115.
- [46] Baev PK. Defining civil war by examining post-Soviet conflicts. *Terror Polit Violence*. 2007;19(2):247–268.
- [47] Meardi G. Multinationals' heaven? Uncovering and understanding worker responses to multinational companies in post-communist Central Europe. *Int J Hum Resour Manag*. 2006;17(8): 1366–1378.
- [48] Arbatov G. Origins and consequences of "shock therapy". In: *The New Russia: Transition Gone Awry, 1991–1995*. CA: Stanford University Press; 2001.
- [49] Tompson W. Was Gaidar really necessary?: Russian "shock therapy" reconsidered. *Probl Post-Commun*. 2002;49(4):12–21.
- [50] Nove A, Nove A. 1969. *An economic history of the USSR*. IICA. London (UK): Cambridge University Press.
- [51] Gerber TP, Hout M. More shock than therapy: market transition, employment, and income in Russia, 1991–1995. *Am J Sociol*. 1998;104(1):1–50.
- [52] Reshetnikov V, Arsentev E, Bolevich S, et al. Analysis of the financing of Russian health care over the past 100 years. *IJERPH*. 2019;16(10):1848.
- [53] Marina S. Poverty and Shared Prosperity in Russia: income dynamics and social inequalityxvi April International academic Conference on economic and social Development, April 7–10, 2015, Russia, Moscow. *J Econ Sociol*. 2015;16(3):203–208.
- [54] Kharas HJ, Pinto B, Ulatov S. An analysis of Russia's 1998 meltdown: fundamentals and market signals. *Brookings Pap Econ Act*. 2001;2001(1):1–68.
- [55] Entov RM, Lugovoy OV. 2013. Growth trends in Russia after 1998. In *The Oxford handbook of the Russian economy*. New York: Oxford University Press.
- [56] Breach A. Russia's path to prosperity in the postindustrial world. *Probl Econ Transition*. 2004;46(10):47–79.
- [57] Jakovljevic M, Timofeyev Y, Ranabhat CL, et al. Real GDP growth rates and healthcare spending—comparison between the G7 and the EM7 countries. *Global Health*. 2020;16(1):1–13.
- [58] Jeong M. 2018. Russia, on the way to economic prosperity. <https://think-asia.org/handle/11540/8909>
- [59] Mau V. Perestroika: theoretical and political problems of economic reforms in the USSR. *Eur-Asia Stud*. 1995;47(3):387–411.
- [60] Zhang WW. 1996. *Ideology and economic reform under Deng Xiaoping, 1978–1993*. Geneva (Switzerland): Graduate Institute of International Studies.
- [61] China overtook the US as the world's largest economy. 2014. <https://www.businessinsider.com/china-overtakes-us-as-worlds-largest-economy-2014-10>.
- [62] The world's top economy: the US vs China in five charts. 2016. <https://www.weforum.org/agenda/2016/12/the-world-s-top-economy-the-us-vs-china-in-five-charts/>.
- [63] IMF Country Report No. 14/235; PEOPLE'S REPUBLIC OF CHINA 2014 ARTICLE IV CONSULTATION—STAFF REPORT; PRESS RELEASE; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR THE PEOPLE'S REPUBLIC OF CHINA July 2014, Washington, DC.
- [64] Liu Y, Liu Y, Chen Y, et al. The process and driving forces of rural hollowing in China under rapid urbanization. *J Geogr Sci*. 2010;20(6):876–888.
- [65] Layne C. Preventing the China-US cold war from turning hot. *Chin J Int Polit*. 2020;13(3):343–385.
- [66] USA Official Foreign Trade in Goods with European Union. 2021. <https://www.census.gov/foreign-trade/balance/c0003.html>.
- [67] China-ASEAN trade skyrockets by 85 times in three decades. 2021. http://www.xinhuanet.com/english/2021-07/30/c_1310095612.htm.
- [68] Krstic K, Westerman R, Chattu VK, et al. Corona-triggered global macroeconomic crisis of the early 2020s. *IJERPH*. 2020;17(24): 9404.
- [69] The Canon of Medicine. 2021. <https://www.britannica.com/topic/The-Canon-of-Medicine>.
- [70] Avicenna and The Canon of Medicine. 2020. <https://www.medicalhistorytour.com/missives/2017/5/4/avicenna-and-the-canon-of-medicine>.
- [71] Степанянц МТ. Махатма Ганди: «апостол ненасилия». *Век глобализации*. 2009;(1).
- [72] Gandhi MK, Kumarappa B, Prasad R, et al. *The collected works of Mahatma Gandhi*. 1958;34:20–30.
- [73] Xintao Y. *The Long March and the beginning of the new situation of Chinese revolution*. Hubei (China): J Hubei Polytechnic Univ. 1997.
- [74] Jakovljevic M, Camilleri C, Rancic N, et al. Cold war legacy in public and private health spending in Europe. *Front Public Health*. 2018;6:215.
- [75] Cereseto S. On the causes and solution to the problem of world hunger and starvation: evidence from China, India, and other places. *Insurgent Sociol*. 1977;7(3):33–52.
- [76] Cullather N. 2010. *The hungry world: America's Cold War battle against poverty in Asia*. Cambridge (MA): Harvard University Press.
- [77] Silverman B, Yanowitch M. 2019. *New rich, new poor, new Russia: winners and losers on the Russian road to capitalism*. London (UK): Routledge.
- [78] Bhutta ZA, Gupta I, de'Silva H, et al. Maternal and child health: is South Asia ready for change?. *BMJ*. 2004;328(7443):816–819.
- [79] Grohmann A. Financial literacy and financial behavior: Evidence from the emerging asian Middle class. *Pac-Basin Finance J*. 2018;48:129–143.
- [80] Health Care Systems - Four Basic Models; 2009. https://www.pnhp.org/single_payer_resources/health_care_systems_four_basic_models.php.
- [81] Jakovljevic M, Fernandes PO, Teixeira JP, et al. Underlying differences in health spending within the World Health Organisation Europe Region—comparing EU15, EU post-2004, CIS, EU candidate, and CARINFONET countries. *IJERPH*. 2019;16(17):3043.
- [82] Ranabhat CL, Jakovljevic M, Dhimal M, et al. Structural factors responsible for universal health coverage in low-and Middle-

- income countries: results from 118 countries. *Front Public Health*. 2020;7:414.
- [83] Cole JR, Kandiyoti D. Nationalism and the colonial legacy in the Middle East and Central Asia: Introduction. *Int J Middle East Stud*. 2002;34(2):189–203.
- [84] Harries AD, Jensen PM, Zachariah R, et al. How health systems in Sub-Saharan Africa can benefit from tuberculosis and other infectious disease programmes [unresolved issues]. *Int J Tuberculosis Lung Dis*. 2009;13(10):1194–1199.
- [85] Jakovljevic M, Lamnissos D, Westerman R, et al. Future health spending forecast in leading emerging BRICS markets in 2030-health policy implications. 2021.
- [86] Lewin M. Society and the Stalinist state in the period of the Five Year Plans. *Soc Hist*. 1976;1(2):139–175.
- [87] Yang H, Zhao D. Performance legitimacy, state autonomy and China's economic miracle. *J Contemp China*. 2015;24(91):64–82.
- [88] Lagomarsino G, Garabrant A, Adyas A, et al. Moving towards universal health coverage: health insurance reforms in nine developing countries in Africa and Asia. *Lancet*. 2012;380(9845):933–943.
- [89] Lamnissos D, Giannakou K, Jakovljevic MM. Demographic forecasting of population aging in Greece and Cyprus: one big challenge for the Mediterranean health and social system long-term sustainability. *Health Res Policy Sys*. 2021;19(1):1–8.
- [90] Jakovljevic M, Laaser U. Population aging from 1950 to 2010 in seventeen transitional countries in the wider region of South Eastern Europe. *SEEJPH*. 2015;2015:3.
- [91] Rancic N, Jakovljevic MM. Long term health spending alongside population aging in N-11 emerging nations. *East Eur Bus Econ J*. 2016;2(1):2–26.
- [92] Jakovljevic MM, Netz Y, Buttigieg SC, et al. Population aging and migration—history and UN forecasts in the EU-28 and its east and South near neighborhood—one century perspective 1950–2050. *Global Health*. 2018;14(1):1–6.
- [93] Feng Q, Yeung WJJ, Wang Z, et al. Age of retirement and human Capital in an aging China, 2015–2050. *Eur J Popul*. 2019;35(1):29–62.
- [94] Ogura S, Jakovljevic M. Health financing constrained by population aging: an opportunity to learn from Japanese experience. *Serbian J Exp Clin Res*. 2014;15(4):175–181.
- [95] Jakovljevic MB, Vukovic M, Fontanesi J. Life expectancy and health expenditure evolution in Eastern Europe-DiD and DEA analysis. *Expert Rev Pharmacoecon Outcomes Res*. 2016;16(4):537–546.
- [96] Zimmerman S, Dobbs D, Roth EG, et al. Promoting and protecting against stigma in assisted living and nursing homes. *Gerontologist*. 2016;56(3):535–547.
- [97] Jakovljevic M, Jakab M, Gerdtham U, et al. Comparative financing analysis and political economy of noncommunicable diseases. *J Med Econ*. 2019;22(8):722–727.
- [98] Mohan P, Mohan SB, Dutta M. Communicable or noncommunicable diseases? Building strong primary health care systems to address double burden of disease in India. *J Family Med Prim Care*. 2019;8(2):326–329.
- [99] Godman B, Basu D, Pillay Y, et al. Review of ongoing activities and challenges to improve the care of patients with type 2 diabetes across Africa and the implications for the future. *Front Pharmacol*. 2020;11:108.
- [100] Jakovljevic MB. Resource allocation strategies in Southeastern European health policy. *Eur J Health Econ*. 2013;14(2):153–159.
- [101] Jakovljevic M, Jovanovic M, Lazić Z, et al. Current efforts and proposals to reduce healthcare costs in Serbia. *Serbian J Exp Clin Res*. 2011;12(4):161–163.
- [102] Lutz W, Sanderson W, Scherbov S. The coming acceleration of global population ageing. *Nature*. 2008;451(7179):716–719.
- [103] Micah AE, Su Y, Bachmeier SD, et al. Health sector spending and spending on HIV/AIDS, tuberculosis, and malaria, and development assistance for health: progress towards Sustainable Development Goal 3. *Lancet*. 2020;396(10252):693–724.
- [104] Nugent R, Feigl A. 2010. Where have all the donors gone? Scarce donor funding for non-communicable diseases. Washington (DC): Center for Global Development.
- [105] Meo SA, Usmani AM, Qalbani E. Prevalence of type 2 diabetes in the Arab world: impact of GDP and energy consumption. *Eur Rev Med Pharmacol Sci*. 2017;21(6):1303–1312.
- [106] Ren F, Zhang J, Gao Z, et al. Racial disparities in the survival time of patients with hepatocellular carcinoma and intrahepatic cholangiocarcinoma between Chinese patients and patients of other racial groups: a population-based study from 2004 to 2013. *Oncol Lett*. 2018;16(6):7102–7116.
- [107] Lee MJ, Popkin BM, Kim S. The unique aspects of the nutrition transition in South Korea: the retention of healthful elements in their traditional diet. *Public Health Nutr*. 2002;5(1a):197–203.
- [108] Beall J, Kanbur R, Guha-Khasnobis B. Creating place for the displaced: migration and urbanization in Asia. In: *Urbanization and development in Asia: multidimensional perspectives*. Oxford University Press; 2012.
- [109] Datta A, Shaban A, editors. 2016. Mega-urbanization in the global South: Fast cities and new urban utopias of the postcolonial state. New York (NY): Taylor & Francis.
- [110] Bredenkamp C, Evans T, Lagrada L, et al. Emerging challenges in implementing universal health coverage in asia. *Soc Sci Med*. 2015;145:243–248.
- [111] Jakovljevic M, Cerda AA, Liu Y, et al. Sustainability challenge of Eastern Europe—historical legacy, belt and road initiative, population aging and migration. *Sustainability*. 2021;13(19):11038.