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A dynamic modelling of the regional and international political economy of US aid to Pakistan

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ABSTRACT
This study takes a unique approach by empirically examining the political economy of US aid to Pakistan in the South Asian regional strategic context, including the geopolitics of China, India, Iran, and Russia. Using the dynamic Autoregressive Distributed Lag (ARDL) method from 1971 to 2016, we find that US economic assistance responds positively to regional wars in Afghanistan and the Indo-Russian strategic relationship in the long run. The improvement in the relationship between India and Pakistan increases US economic aid in the short run but reduces it in the long run. The Pak-Iran economic relationship reduces US economic assistance in the short run while in the long run, it is positive but insignificant. Washington’s policy for South Asia is now more China-centric in reshaping regional geopolitics. The US-foreign-aid-policy instrument generally plays a dynamic role in achieving manifold strategic objectives in the South Asian region. These findings contribute to a deeper understanding of the complex dynamics of foreign aid and geopolitical relationships.

1. Introduction

Theorists suggest two distinct views on the developmental role of (bilateral) foreign aid based on its economic and political implications. The proponents of aid argue that aid promotes growth by providing capital, foreign exchange, technological knowledge, governance\textsuperscript{1}, and economic structure which is lacking in many poor developing countries. Foreign aid can thus be viewed as an altruistic\textsuperscript{2} action to reduce world poverty. Political scientists often regard aid for its role in promoting peace and prosperity by developing cordial relations between developed (donor) and developing (recipient) countries. In contrast, the antagonists view aid disbursement as a neo-imperialism\textsuperscript{3} form of achieving the (donors) vested interests to maintain dominance.
in the developing world and create imbalances in relations between the rich and poor countries. At the same time, economists argue that aid dependency results in a debt burden, thus hampering growth in (poor) developing countries. Political scientists categorize this dependency (i.e. rich countries exploit poor nations)- a form of capitalist theory, as a theoretical paradigm of economic structuralism.\textsuperscript{4} They also view aid as an instrument of foreign policy used to pursue geopolitical objectives. This latter view has frequently been applied to the history of US economic aid to Pakistan. However, little is empirically addressed from the donor’s perspective of aid purposed for nationalism (i.e. states competing economically) and economic structuralism - based on strategic relations. The strategic alignment of regional superpowers (like China and Russia) and their differing conflicts and interests both with the donor (US) and regional countries have not been empirically addressed earlier. This study contributes to the literature by applying comprehensive and dynamic modelling to empirically analyse the political economy of US economic aid to Pakistan in the South Asian geopolitical context about other superpowers and regional players.

Analysing the dynamics of the US assistance program, Guess (1987) argues that US aid has served three prime purposes of foreign policy: diplomatic, compensatory, and strategic. Geographically, Pakistan is strategically important; it shares borders with Afghanistan, China, India, and Iran. It is linked with Central Asian states through land routes. The long-lasting border conflict over Kashmir escalated into three wars and numerous standoffs between Islamabad and New Delhi. Given India’s relatively close relationship with the Soviet Union, it is hardly surprising that Washington would support Pakistan (India’s regional rival). Pakistan with its large population, poverty, and ineffective governance – has always needed foreign aid. In addition to the US, China (with its dispute with India) has found it strategically useful to support Pakistan both on economic and strategic (defense) fronts. Given the US’s post-Cold War rivalry with China, the US would not like China to be Pakistan’s sole major benefactor.

Historically, the US has disbursed more than 70 billion dollars in economic assistance to Pakistan (US Agency for International Development (USAID, 2024). Roughly one-third of the total assistance received by Pakistan came alone from the United States. Other major bilateral donors include Japan, Germany, the UK, Canada, and a few Muslim countries. Moreover, the country stands among the major clients of the International Monetary Fund (IMF) and is the second-largest recipient of Asian Development Bank (ADB) loans. It holds a position among the top ten recipients of World Bank lending. Importantly, the US disbursed a massive amount of military aid during the Cold War, especially during the Soviet invasion of Afghanistan and subsequently in the WoT.

Figure 1 presents the geopolitics in South Asia using the US economic aid to Pakistan, Chinese arms exports to Pakistan, and Russian arms supplies to India (in millions of US dollars) from 1971-2016. As can be seen, historically, US economic assistance has been quite volatile. A greater surge in economic aid was witnessed during the Russian (former Soviet) invasion of Afghanistan in the 1980s and subsequently the WoT. Since 2010, US economic assistance to Pakistan has gradually declined. Following primarily US assistance to Pakistan, the Russian arms supplies to India surged during the increased US geopolitical interests in Afghanistan in the
Soviet War and later during the WoT. As shown in Figure 1, US economic assistance to Pakistan increased during the low levels of strategic cooperation between Islamabad and Beijing, as measured by Chinese arms exports to Pakistan. However, it decreased with increasing Chinese arms exports to Pakistan. Figure 1 indicates the manifold strategic objectives of US economic assistance to Pakistan. Looking at Figure 1, one can assume that the US foreign policy is handled carefully in the space between Indo-Russian and Sino-Pak strategic partnerships in the South Asian region, keeping its ally network alive.

Earlier studies investigating the politics of US aid to Pakistan are primarily descriptive (for example, Kundi and Bano 2007; Ali 2009; Tabbasum 2013; Ali, Banks, and Parsons 2016), while the limited empirical literature has not determined the aid in a strategic context, in particular, employing the geostrategic regional alignments of superpowers (for example, see Anwar and Michaelowa 2006; Akhter and Imran 2015; Mehmood and Seror 2019). This study contributes to the literature by empirically analysing the political economy of the US aid program, considering a greater range of donor’s strategic interests in pursuing its foreign policy objectives in South Asian regional politics. Besides developmental reasons, the study’s findings indicate that the donor’s strategic motives have significantly driven economic aid during the times of a solid ally network due to (periodic) US interests in South Asia. In the long run, economic aid responds the same (as a substitute) to Pak-China strategic engagement. It follows the same compensatory strategic policy to counter Russia. In the short run, the US economic aid complements trade ties between conflicting neighbours, India and Pakistan, while reducing in the long run.

The paper is organized as follows. Next, Section 2 provides a brief overview of US strategic assistance and historical relations between Islamabad and Washington in the context of aid. Section 3 presents a literature survey regarding the political economy, particularly the strategic objectives of aid. Section 4 explains the data and methodological framework, while Section 5 presents the results. Later, Section 6 discusses the empirical findings. Finally, Section 7 concludes the paper.

Figure 1. Arms imports by India and Pakistan and US economic aid to Pakistan (US$ mil), 1971–2016.
Source: Authors’ work (using the SIPRI data).
2. Pak-US relationship: a historical overview of foreign aid

In the early years after independence, Pakistan relied primarily on economic assistance provided by the British government. However, more was needed to meet the needs of a newborn country with fewer resources, refugee problems, and a large population. In 1953, the US government stepped forward and provided $8 million in grants and loans to assist Pakistan in managing the food crisis. In the late 1950s, after signing mutual defence agreements (SEATO, Baghdad Pact, later CENTO), the United States became the major bilateral donor to Pakistan. The economic and military assistance was disbursed to Pakistan as part of US foreign policy interests (for example, see Nayer 2005; Khan 2010). The aid given was mainly used for nation-building and expanding essential services. Further, with the support of the Ford Foundation, the US government started a program to train the civil servants of Pakistan.

In the 1960s, the US bilateral economic assistance was greatly motivated by strategic regional interests to contain Soviet expansion. The military assistance was disbursed to balance the Indo-Russian strategic partnership in the region. During this period, the private sector was encouraged to work in essential sectors like finance and manufacturing (see Papanek 1967; Brecher and Abbas 1972; White 1974). Besides civil servants’ training, Washington started offering educational programs for ordinary Pakistanis to obtain degrees from US colleges and universities. In 1962, the US supplied economic and military aid to India (which was assumed to strengthen Indian hegemony in the region), thus pushing Pakistan to develop relations with other powers like China (Khan 2010). Later, the US halted support to its ally (Pakistan) during the 1965 Indo-Pak War, resulting in cold relations between Islamabad and Washington. The aid relation was not resistant to (Indo-Pak) regional conflicts.

By 1971, the US government had disbursed Pakistan $4.1 billion in loans and grants (Khan 2010). Despite a shift in government policy towards socialism, strategic realignment, the functioning of the Islamic bloc, and a drive for nuclear capabilities, US assistance remained relatively low during the Bhutto period (1971-77). However, Pakistan’s resilience was evident as it continued to develop its agriculture sector with the help of the US, focusing on fertilizer and irrigation systems. It also established nutrition research, rural health care, and population control and planning. The attack on the US Embassy in Islamabad in late 1979 led to a significant downturn in the aid relationship between the two countries. Washington cut off economic and military aid with the Carter administration amending the Foreign Assistance Act.

In the early 1980s, President Jimmy Carter (on his tour to South Asia) visited India (and not Pakistan) due to the disengagement of Islamabad-Washington. After the Soviet invasion of Afghanistan, President Carter sent his security advisor, Zbigniew Brzezinski, to offer military and economic assistance, which the Pakistani government refused. Later, the new President, Ronald Reagan, sent his team to negotiate with Pakistani counterparts, which resulted in a strategic consensus between the two countries. In the war against the Soviets in Afghanistan, Pakistan played the role of a frontline state. This war resulted in more significant economic and military assistance to Islamabad (for example, see Baxter 1985; Burki and Baxter 1991; Khan 2010).
Washington signed a five-year (1982-87) aid agreement with Islamabad worth more than $3 billion, half of which had a military purpose while the other half was for economic and technical assistance. Under this military assistance, Pakistan could buy forty F-16 fighter aircraft (only a few were provided), tanks, and ammunition. A quarter of economic assistance was devoted to the energy sector, whereas USAID supported agriculture, health, and education. Khyber Pakhtunkhwa (former North-Western Frontier Province), Baluchistan, and Federally Administered Tribal Areas (FATA, now part of Khyber Pakhtunkhwa) were served by foreign aid for the first time. In 1987, the withdrawal of Soviet troops from Afghanistan and concerns regarding the development of nuclear weapons reduced the US economic assistance to Pakistan. The US Congress passed the Pressler Amendment and required a certificate of no risk of nuclear development in Pakistan from the President. That resulted in an aid suspension after the US President failed to produce the certificate.

The 1990s witnessed economic sanctions from Washington on account of the acquisition of nuclear weapons. Under the humanitarian assistance program, USAID worked with non-governmental organizations to promote primary education, community-based learning, skills development, maternal and child health care, local organizations strengthening, etc. In 1995, the Brown Amendment (devoted to development) was passed by the US Congress, which abolished the legal clause of Presidential certification to provide assistance. Economic assistance remained relatively low during this decade, reaching the lowest $5.4 million in 1998. After the nuclear tests in 1998, US assistance reached $77.8 million and subsequently increased to $101.4 million in 1999 (Anwar and Michaelowa 2006).

The new millennium started with distant relations between Islamabad and Washington. This can be witnessed during President Clinton’s five-day visit to India and his mere five hours spent in Pakistan. The 9/11 incident once more called for Islamabad-Washington’s close strategic ties. Again, Pakistan agreed to play the role of a frontline state in the new Afghan war. This time, it was not against communism but against terrorism. This alliance led to a withdrawal of economic sanctions (imposed by the US). It paved the way for sizeable economic assistance to support US regional interests. In 2001, US aid increased seven times compared to the previous year’s level. Further, it also helped Pakistan re-schedule its debt of $12.5 billion from the Paris Club and provided a five-year assistance package worth $3 billion (Anwar and Michaelowa 2006). Between 2002 and 2008, 75% of foreign aid funds were allocated for military purposes. In 2009, the Kerry-Lugar bill passed by the US Congress, further provided development aid of $7.5 billion for five years, targeting social programs like education, health, poverty alleviation, and infrastructure, especially in war-related areas in the North-Western Territory (now Khyber Pakhtunkhwa). In 2010, Washington announced $2 billion of defense aid (for five years) to provide American ammunition, military hardware, and accessories (Zaidi 2011). With recent economic and military aid, the US increased the accountability that it never had from the Pakistani government and armed forces. The NATO forces’ attack on the Pakistani Army’s Salala check-post on the North-Western border (with Afghanistan), and later the US military operation (targeting Osama Bin Laden) in Abbottabad, developed mistrust between the two countries. Besides, the US agreement to transfer civil
nuclear technology and defense technology to India further isolated Islamabad and Washington and imbalanced the power equation in South Asia.

The transformation of development aid into war aid served the US strategic interests more than Pakistan's interests. During the WoT, Pakistan received more than $20 billion of aid from the US. In contrast, the damages from the WoT have been estimated at around $123 billion (Source: Pakistan Economic Survey, 2016–2017). The purpose of US aid is unclear from both countries' perspectives in the WoT. Military aid has always been a critical element in Pak-US relationships. It is perceived that “humanitarian and economic assistance will always be overshadowed by military-related aid and actions” (Zaidi 2011). While the aid relationship between the US and Pakistan has been described as ‘muddled, deceptive, complicated and even dangerous, especially since September 11’7, it is surprising that there is a dearth of empirical literature investigating the strategic objectives of US economic aid to Pakistan, a gap that this study aims to fill.

3. Literature review

Why do countries give aid? The answer depends on how donors formulate their foreign policies. The literature differentiates the donors based on their aid objectives into two main groups: donors primarily follow development objectives and donors with essentially non-development objectives, i.e. commercial, ideological, political, and strategic. Studies on the political economy of aid conclude that donor countries try to raise their influence on international political platforms and achieve long-term political and economic interests by advancing foreign aid (Baldwin 1966). Some conclude that the donor interests weigh more than the recipient’s need in the mechanism of aid allocation, particularly in the case of bilateral aid (for example, see Mckinlay and Little 1978, McKinley and Little 1979; Maizels and Nissanke 1984; Gang and Lehman 1990; Cohen 1995). Historically, aid has been expanded mainly due to donor’s geopolitical, commercial, and other interests (for example, see Jones, Riddell, and Kotogilou 2005; Browne 2006). Political scientists feature aid as neo-imperialism, achieving nationalism and economic structuralism in which states compete economically and rich countries exploit the poor, respectively (Pankaj 2005; Newmann 2016). Thus, many studies suggest that non-developmental factors have remained more critical in influencing aid allocations than developmental ones.

After World War II, the US appeared as a focal player in international politics through the Marshall Plan to re-establish and develop Europe and prevent communism from taking hold. The Marshall Plan is considered the most successful US foreign assistance initiative in history. It ultimately transformed into a Mutual Security Program to help the economies bordering the Soviet Union (now Russia) and China. Under the Eisenhower and Kennedy administrations, the US provided economic and military assistance to the newly independent, less developed, and strategically important countries situated closer to communist regions like Greece and Turkey. The Foreign Assistance Act of 1961 established the United States Agency for International Development (USAID) as a national channel for economic aid. At the start of this post-war era, foreign aid was typically supposed to be temporary. However, the aid
continued for various diplomatic and strategic motives and because of military crises during the Cold War.\(^8\)

Foreign aid has been disbursed to achieve three main goals of US foreign policy: diplomatic (making a presence through humanitarian aid), compensatory (establishing the military bases by aid), and strategic (changing the world order through economic and military aid). Many researchers argue that pure aid (which does not serve the donor’s interests) is non-existent.\(^9\) Notably, the US assistance program is considered to have significantly contributed to achieving US foreign policy goals (Shultz, 1984).

During the Cold War, the United States disbursed aid to Europe and developing countries to reduce Soviet expansion and help its allies (for example, see Meernik, Krueger, and Poe 1998; Dunning 2004; Boschini and Olofsgård 2007). In the same period, US aid was disbursed to allies and strategically important regimes (De Mesquita and Smith 2009). The United States tended to reward countries with strategic ties and penalize countries displaying internal and external communist sympathies (McKinlay and Little 1977). Hence, Washington’s foreign aid policy excluded the countries with ideological differences during the Cold War (for example, see Poe 1991; Poe and Meernik 1995; Travis 1995). The security objective of US aid has been observed as exceptionally significant in the literature. Notably, US military presence, communist bordering, and allies in international wars have been observed as important factors in US aid allocation, particularly during the Cold War (for example, see McKinley and Little 1979; Meernik, Krueger, and Poe 1998). However, this security element of US aid based on the Soviet/Russian threat diminished during the post-Cold War period.\(^10\) The volume of bilateral aid was reduced after the Cold War due to less focus on security concerns (Berthélemy and Tichit 2004). As the Cold War ended, Washington underwent a significant shift in its aid policy, redirecting its efforts to counter rogue states and provide funds for development plans (see Lai 2003; Fleck and Kilby 2010; Wright and Winters 2010). The literature suggests, that in the immediate period following the end of the Cold War, aid had become less of a ‘geopolitical’ instrument of foreign policy (Boschini and Olofsgård 2007).

The WoT marked a significant shift in US aid policy, with security imperatives to counter-terrorism taking center stage. Since 9/11, US aid policy has moved more towards achieving anti-terrorist objectives (Mueller 2006). The development of an aid agenda became weaker or merged into a strategic component. Maintaining internal stability (in political and law and order formats) has remained a significant part of the US grand strategy to protect its allies’ networks from security threats (Lake 1999, 2009). The alliance network that continued in US foreign policy after the Cold War took on a new dimension post-9/11 while combating ‘transnational terrorism’ (Boutton and Carter 2014). The strategic role of aid re-emerged, and bilateral aid flows increased to strategic allies and war-affected countries during the WoT (Fleck and Kilby 2010). Since the 9/11 incident, Washington has sometimes been suspected of pursuing a foreign policy of protecting itself more than its allies’ network (Ikenberry 2011).

The WoT brought huge funds to countries supposedly sensitive to Washington’s strategic objectives. After 9/11, the US supported its frontline allies in the war against terrorism, like Jordan, Pakistan, and Turkey, both economically and by defence assistance. Washington announced the reconstruction programs for Iraq and Afghanistan,
increasing global aid volume. The US reconstruction phase aid package to Iraq became the most extensive assistance package since the Marshall Plan.\textsuperscript{11} Compared with the Cold War, most economic aid has been given to Afghanistan and Iraq (Moss, Roodman, and Standley 2005) during the WoT. The economic aid support to traditional recipients, i.e. Israel and Egypt in the Middle East, was reduced. The post-9/11 period has witnessed changes in both volume and recipients since Washington provided aid to roughly 150 countries. However, a large share of aid has been disbursed to a few countries representing the donor’s priorities and interests (Tarnoff and Nowels 2005).

Domestic and international politics play a significant role in shaping aid allocation, with changes in the external environment altering the aid allocation process (for example, see Cingranelli and Pasquarello 1985; McKinley and Little 1979; Maizels and Nissanke 1984; Poe and Meernik 1995; Meernik, Krueger, and Poe 1998). Internal conflict, such as the Pak-India border conflict, can reshape regional strategic positioning and lead to more aid flows (Balla and Reinhardt 2008). Many scholars have investigated the politically motivated aspects of aid allocation, but less attention has been paid to ‘cross-fertilization’ between domestic and foreign policies regarding aid allocation. Therefore, we aim to examine US aid allocation to Pakistan from domestic, regional, and international perspectives. Moreover, this study investigates the US foreign policy narrative of aid in South Asia’s diplomatic, strategic, and compensatory framework, underscoring the geopolitical implications of this relationship.

Recent literature noted the competition between the US and China in aid provision to the countries. The US views China as a long-run strategic competitor. The US and Western policymakers considered China’s Belt and Road Initiative (BRI) to be a geo-strategic move. Vadlamannati et al. (2023) noted that “the United States was more likely to vote for Multilateral Development Banks (MDBs) packages to countries that have signed on to the BRI.” Hassan (2022) noted that Pakistan should focus on geo-economics rather than geopolitics. He suggested working with both powers. The US overestimates the BRI threat while ignoring Asia’s infrastructure (Shah 2023). In another study, Abb (2023) considered BRI in Pakistan a so-called flagship project that sparked conflict. He argues that BRI is not a “straight case of Chinese influence radiating outward”. Pakistan is facing policy ambiguity while keeping the relationship between the US and China. We can conclude in the words of Boon and Teo (2022), “Amid the growing U.S.-China contest, regional middle powers perceive a narrowing strategic space for manoeuvrability”.

4. Data and methodology

We aim to investigate the strategic angle of US economic aid to Pakistan potentially linked with Pak-China and Indo-Russian strategic relations through the arms supplies to Pakistan and India, respectively. Further, we incorporate a large set of control variables necessary to explain the economic aid model. The simple empirical model can be written as:

\[
Y_t = \alpha + \beta Z_t + \gamma X_t + \epsilon_t
\] (1)
where \( Y \) is US economic aid to Pakistan, \( Z \) embodies strategic variables, and \( X \) represents a set of essential control variables. The strategic variables \( Z \) of interest are Chinese arms exports to Pakistan (\( \text{China} \)), Russian arms exports to India (\( \text{Russia} \)), Pak-India trade relations (\( \text{India} \)), and Pak-Iran trade (\( \text{Iran} \)). The \( X \) is a vector of controls, including a dummy for regional Afghan wars, Gross Domestic Product (\( \text{GDP} \)), Political stability (\( \text{Polity2} \)), nuclear warheads, and terrorism (total deaths from High Casualty Terrorist Bombings (\( \text{HCTB} \))) while \( u \) represents the white noise. Table 1 below presents the variables’ description, units of measurement, and data sources.

The strategic variables have been selected following the literature indicating the compensating approach of donors if the recipient is an ally and receiving the military supplies from the US, and the punishing approach if strategically aligned with a communist country, particularly, Russia (for example, see McKinlay and Little 1977, Mckinlay and Little 1978; Maizels and Nissanke 1984; Hess 1989; Ball and Johnson 1996; Meernik, Krueger, and Poe 1998; McGillivray 2003; Boschini and Olofsgård 2007; Clist 2011). Further, the Cold War dummy has also been used by many studies (for example, see De Mesquita and Smith, 2007; Headey 2008; Fleck and Kilby 2010; Tingley 2010; Whang et al. 2019) while studies on Pakistan used the Afghan war dummy capturing the US strategic interests in the region (for example, see Akhter and Imran 2015; Mehmood and Seror 2019). The nuclear debate has recently been added to the aid literature (for example, see Reynaud and Vauday 2009). The economic and political variables have been used by a large number of studies on aid allocation (for example, see Apodaca and Stohl 1999; Alesina and Dollar 2000; Burnside and Dollar 2000; Neumayer 2003; Dollar and Levin 2006; Boschini and Olofsgård 2007; Balla and Reinhardt 2008; Fleck and Kilby 2010; Clist 2011; Fuchs, Dreher, and Nunnenkamp 2014; Whang et al. 2019; Opršal et al. 2021; Finke 2023). The recent stream of literature has also developed a relationship between aid and terrorism (for example, see Nasir, Rehman, and Orakzai 2012; Tahir 2017; Shahzad et al. 2020; Kim and Sandler 2021, 2023).

### Table 1. Variables, description, units, and sources.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description &amp; units</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Economic Aid</td>
<td>US economic assistance to Pakistan (US$)</td>
<td>US AID</td>
</tr>
<tr>
<td>Pak-India trade (( \text{India} ))</td>
<td>Trade between India and Pakistan (US$)</td>
<td>IMF Direction of Trade Statistics</td>
</tr>
<tr>
<td>Pak-Iran trade (( \text{Iran} ))</td>
<td>Trade between India and Pakistan (US$)</td>
<td>IMF Direction of Trade Statistics</td>
</tr>
<tr>
<td>Pak-China strategic relations (( \text{China} ))</td>
<td>Chinese defense exports to Pakistan (US$)</td>
<td>Stockholm International Peace and Research Institute (SIPRI)</td>
</tr>
<tr>
<td>Indo-Russian strategic relations (( \text{Russia} ))</td>
<td>Russian defense exports to India (US$)</td>
<td>SIPRI</td>
</tr>
<tr>
<td>Regional Afghan War</td>
<td>dummy for a US involvement in a war in Afghanistan either directly or indirectly: ‘1’ for Pak-US strategic engagement during the Cold War period and then in the WOT; ‘0’ otherwise</td>
<td>Author’s compilation</td>
</tr>
<tr>
<td>Political Stability (( \text{Polity2} ))</td>
<td>Political stability ranges between −10 (highly autocratic) to +10 (highly democratic)</td>
<td>PolityIV dataset, Centre for Systemic Peace</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product (US$)</td>
<td>World Development Indicators, World Bank database</td>
</tr>
<tr>
<td>Nuclear Warheads</td>
<td>number of nuclear stockpiles</td>
<td>Kristensen and Norris (2013) and SIPRI yearbooks</td>
</tr>
<tr>
<td>Terrorism</td>
<td>deaths from high-casualty terrorist bombings</td>
<td>Terrorism database, Centre for Systemic Peace</td>
</tr>
</tbody>
</table>
To investigate the long-run equilibrium relationship among the model variables, we first examine the cointegration using the Engle-Granger test with a null hypothesis of ‘no integration’. Since the $p$-value is less than 0.05, therefore, we reject the null hypothesis and confirm the long-run cointegrating relationship between the model variables (see Table A1 in the Appendix). We now examine the unit root in all the model variables. For this, we use the Augmented Dickey-Fuller (ADF), Dickey-Fuller Generalized Least Squares (DF-GLS), and Phillips-Perron (PP) stationarity tests. Table A2 (in the Appendix section) presents the results of the unit root tests. Results show that variables such as Chinese arms exports to Pakistan, Russian arms exports to India, and terrorism are stationary at a level, i.e. $I(0)$. In contrast, all other variables like US economic aid, Pak-India trade, Pak-Iran trade, GDP, political stability, and nuclear warheads are stationary at the first difference, i.e. $I(1)$. As the underlying variables are a combination of $I(0)$ and $I(1)$, therefore, this study employs the Autoregressive Distributed Lag Model (ARDL), introduced by Pesaran, Shin, and Smith (2001). Among others, ARDL has the advantage of estimating the dynamic effects of the lagged dependent variable along with the set of lagged independent variables. Further, it accounts for a sufficient number of lags to capture the data-generating process in a general-to-specific modelling framework (Laurenceson and Chai 2003). We can also derive the Error Correction Model (ECM) from ARDL settings through a simple linear transformation (Banarjee et al. 1993). The ECM integrates short-run adjustments with long-run equilibrium without losing long-run information (Pesaran and Shin 1999). The ARDL ($p$, $q$, $q$, ..., $q$) approach to cointegration involves the estimation of the following model:

$$
\Delta Y_t = \alpha_0 + \sum_{i=1}^{p} \phi_i \Delta Y_{t-i} + \sum_{i=1}^{q} \delta_i \Delta China_{t-i} + \sum_{i=1}^{q} \gamma_i \Delta Russia_{t-i} \\
+ \sum_{i=1}^{q} \lambda_i \Delta India_{t-i} + \sum_{i=1}^{q} \sigma_i \Delta Iran_{t-i} + \sum_{i=1}^{q} \beta_i \Delta X_{t-i} + \theta_1 Y_{t-1} \\
+ \theta_2 China_{t-1} + \theta_3 Russia_{t-1} + \theta_4 India_{t-1} + \theta_5 Iran_{t-1} + \theta_k X_{t-1} + u_t \tag{2}
$$

where $\alpha_0$ denotes the drift component and $Y$ represents the dependent variable of US economic aid to Pakistan.

The ARDL method selects the model with optimal lag length based on the Akaike Information Criteria (AIC). When there is a long-run relationship between the variables, the error correction model is estimated as follows:

$$
\Delta Y_t = \alpha_0 + \sum_{i=1}^{p} \phi_i \Delta Y_{t-i} + \sum_{i=1}^{q} \delta_i \Delta China_{t-i} + \sum_{i=1}^{q} \gamma_i \Delta Russia_{t-i} \\
+ \sum_{i=1}^{q} \lambda_i \Delta India_{t-i} + \sum_{i=1}^{q} \sigma_i \Delta Iran_{t-i} + \sum_{i=1}^{q} \beta_i \Delta X_{t-i} + \eta ECM_{t-1} + v_t \tag{3}
$$

The error correction model indicates the speed of adjustment towards the long-run equilibrium after a short-run shock. To test the long-run relationship in the ARDL bounds test method, we use the $F$-test statistics with a null hypothesis, i.e. $H_0$: $\theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = \theta_k = 0$, implying the non-existence of a long-run relationship while the alternative hypothesis is stating $H_1$: $\theta_1 \neq \theta_2 \neq \theta_3 \neq \theta_4 \neq \theta_5 \neq \theta_k \neq 0$. 


Comparing the $F$-statistic value with the upper and lower critical values, if the $F$-statistic value exceeds the upper critical value, the null hypothesis of no long-run relationship is rejected. On the other hand, if the $F$-statistic is lower than the lower critical value, we cannot reject the null hypothesis; however, when falling in between the critical values, the test is considered inconclusive (Pesaran, Shin, and Smith 2001).

5. Estimation results

Table 2 below presents the results of the ARDL estimation method. The findings suggest that US economic aid to Pakistan is positively influenced by the Sino-Pak strategic relationship, Pak-India trade relations, international or regional wars in Afghanistan, and nuclear stockpiles in the short-run. However, Pak-Iran trade relations, political stability, and terrorism negatively derive economic aid in the short run. The Indo-Russian strategic alliance and GDP do not fit the short-run dynamic model. The significant error correction coefficient suggests around 68% convergence towards the long-run equilibrium within one year.

In the long run, the Indo-Russian strategic alliance and the Afghan War positively derive US economic aid to Pakistan. While the Sino-Pak strategic relationship and Pak-India trade relations negatively influence aid. Overall, the coefficient of the Afghan War that calls for Pak-US strategic engagement suggests more significant flows of economic aid both in the short and long run.

In the ARDL estimations with nine ($k$) parameters, the derived $F$-test statistics is 6.89, which is greater than the upper critical value of 3.3 at a 5% level of significance. Therefore, we reject the null hypothesis and accept the alternative to conclude a

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Long -Run coefficient</th>
<th>Short-Run coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>$\text{coefficient}$</td>
<td>$\text{coefficient}$</td>
</tr>
<tr>
<td>Lag US Economic Aid</td>
<td>$-3.574 \ (0.362)^{***}$</td>
<td>$0.395 \ (0.076)^{***}$</td>
</tr>
<tr>
<td>Chinese Arms Exports to Pak</td>
<td>$-0.539 \ (0.277)^{*}$</td>
<td>$0.395 \ (0.076)^{***}$</td>
</tr>
<tr>
<td>Russian Arms Exports to India</td>
<td>$0.815 \ (0.311)^{**}$</td>
<td>$0.069 \ (0.020)^{***}$</td>
</tr>
<tr>
<td>Pak-India Trade</td>
<td>$-0.322 \ (0.147)^{**}$</td>
<td>$0.069 \ (0.020)^{***}$</td>
</tr>
<tr>
<td>Pak-Iran Trade</td>
<td>$0.149 \ (0.316)$</td>
<td>$-0.191 \ (0.104)^{*}$</td>
</tr>
<tr>
<td>GDP</td>
<td>$0.781 \ (0.792)$</td>
<td>$0.757 \ (0.199)^{***}$</td>
</tr>
<tr>
<td>Regional War (dummy)</td>
<td>$2.087 \ (0.757)^{**}$</td>
<td>$0.047 \ (0.014)^{***}$</td>
</tr>
<tr>
<td>Polity2</td>
<td>$0.005 \ (0.044)$</td>
<td>$0.004 \ (0.000)^{***}$</td>
</tr>
<tr>
<td>Nuclear Warheads</td>
<td>$0.003 \ (0.011)$</td>
<td>$0.003 \ (0.000)^{***}$</td>
</tr>
<tr>
<td>Terrorism</td>
<td>$0.0003 \ (0.000)$</td>
<td>$0.681 \ (0.068)^{***}$</td>
</tr>
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<td>Error Correction</td>
<td>$11.447$</td>
<td>$0.000$</td>
</tr>
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<td>p-value (F-Stat)</td>
<td>$0.000$</td>
<td>$0.582$</td>
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<tr>
<td>p-value (Jarque-Bera)</td>
<td>$0.195$</td>
<td>$0.0682$</td>
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<tr>
<td>p-value (Breusch-Godfrey)</td>
<td>$0.862$</td>
<td>$0.862$</td>
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<tr>
<td>p-value (Breusch-Pagan-Godfrey)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obs.</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>

* * *** represent significance at 10, 5, and 1%, respectively.

Standard Errors are given in parentheses.

US Economic Aid, Chinese Arms exports to Pakistan, Russian Arms Exports to India, Pak-India Trade, Pak-Iran Trade, and GDP are taken in log forms.
significant long-run relationship among the variables in the model (see Tables A3 and A4 in the Appendix section). Further, the probability values of Jarque-Bera, Breusch-Godfrey, and Breusch-Pagan-Godfrey tests are greater than 0.05. Hence, the model satisfies the diagnostic conditions.

6. Discussion

Our empirical findings suggest that Washington limits the disbursement of economic assistance to Pakistan in response to the Pak-China strategic alliance over the time horizon. The US economic assistance complements the Sino-Pak strategic engagement in the short run. However, it acts as a substitute in the long run. It indicates that the US penalizes Pakistan by reducing economic assistance due to increased strategic cooperation between Islamabad and Beijing in the long run. Hence, US assistance is deemed highly sensitive to Pak-China strategic engagement in South Asia. Our findings follow Liu and Ahmed (2020), Boon and Ong (2021), Regilme and Hodzi (2021), Blair, Marty, and Roessler (2022), Abb (2023), and Vadlamannati et al. (2023).

Pak-India trade relations have remained quite frictional due to border conflicts and wars. The better economic cooperation between the neighbouring countries explains the normalization of the relationship (Falarti and Abbas 2020). Findings from the dynamic modelling suggest that the rise in economic cooperation with India brings more US economic assistance to Pakistan in the short run. At the same time, it reduces in the long run. Hence, the outcomes suggest that Washington’s foreign policy of balancing power equations in South Asia is over consistent (long-run) conflict rather than cooperation between India and Pakistan. Our findings are based on the literature (for example, see Rafique 2011; Soherwordi 2020). Conversely, the trade ties between the two conflicting neighbours may bring more prosperity to the region, reducing the demand for aid in the long run (Misson 2022).

The US economic aid is sensitive to the Indo-Russian strategic alliance, compensating or rewarding Pakistan in response. The findings follow the literature (for example, see McKinlay and Little 1977, Mckinlay and Little 1978; Maizels and Nissanke 1984; Hess 1989; Ball and Johnson 1996; Meernik, Krueger, and Poe 1998; McGillivray 2003; Boschini and Olofsghârd 2007; Clist 2011). This suggests that the US foreign policy instrument follows the same direction toward the enhanced New Delhi-Moscow strategic partnership. One could argue that the Sino-Pak strategic partnership and the episodic US military supplies (during the high volumes of economic assistance) might have provided a permanent shield to Pakistan to offset the Indo-Russian alliance in the South Asian region.

We observe the differing degrees of US economic aid programs in response to Pak-Iran trade relations. The results show that US economic assistance reduces in the short run due to more economic cooperation between Islamabad and Tehran. Since the US placed economic sanctions to weaken the ideologically different (Islamic Republic of) Iran, US foreign policy can also be interpreted as penalizing Pakistan by reducing aid in response to its trade relations with Iran. Our findings follow the literature suggesting the US foreign policy on countries in trade relations with Iran (for
example, see Torbat 2005; Fayazmanesh 2008; Yang et al. 2009; O’Sullivan 2010; Pelzman 2020; Terry 2020; Janeba 2024).

Since the 1980s, Afghan-Pak relations have been overwhelmingly mixed in with Washington’s foreign policy for Afghanistan. The US withdrew its attention from Afghanistan after the Soviet defeat. However, Islamabad remained connected with Kabul by recognizing the Taliban government during the ‘inter-war’ period, between the war against the Soviets and the WoT. This suggests that the US foreign policy instrument responds prominently to strategic interests in the region during the Cold War and WoT. Hence, this variable robustly explains the US regional strategic or geopolitical interests. Our results correspond to the literature on strategic motives of aid (for example, see De Mesquita and Smith, 2007; Fleck and Kilby 2010; Tabbasum 2013; Akhter and Imran 2015; Ali, Banks, and Parsons 2016; Whang et al. 2019; Opršal et al. 2021; Regilme and Hodzi 2021).

Political instability is significant in influencing economic assistance in the short run only. This contrasts with the literature revealing that democratic regimes receive more aid (for example, see Alesina and Dollar 2000; Neumayer 2003; Dollar and Levin 2006; Fleck and Kilby; Whang et al. 2019). However, in the case of the US aid, our results support the findings of De Mesquita and Smith (2007), Easterly and Pfutze (2008), Yuichi Kono and Montinola (2009), Wright (2009), Bader and Faust (2014), and Nieto-Matiz and Schenoni (2020). Historically, the sequential military coups in Pakistan, representing political instability, remained strategically linked to the Central Intelligence Agency (CIA) in meeting mutual regional strategic interests. Further, this helped the military regimes to shift strategic resources (received from the US) to the eastern border to balance the power equation in South Asia. Pakistan’s nuclear warheads, representing the strategic importance of Pakistan as an aid recipient, facilitated economic assistance from the US in the short run. Domestic terrorism (in terms of deaths from high-casualty terrorist bombings) raises security concerns. It can halt development programs that represent part of US economic aid.

7. Conclusion

A complex network of bilateral tensions influences the US foreign policy instrument of economic aid. The Indo-Russian strategic engagement strengthens ties between Washington and Islamabad, resulting in increased disbursement of economic assistance. Foreign aid, which used to be a ‘Soviet-centric’ instrument of foreign policy for South Asia, has transformed into a China-centric instrument largely due to growing strategic cooperation between Islamabad and Beijing that reduces US economic assistance in the long run. That is, the US economic assistance is complementary to Sino-Pak strategic relations in the short run; however, in the long run, there is a substitution relationship.

Regional proxy and international proxy wars involving US interests (directly or indirectly) bring more assistance to allies (in our case Pakistan). Notably, the US strategic interests in Afghanistan outweighed all other considerations. Hence, Washington’s geopolitical interests were much deeper with regard to Pakistan’s western and northern sides rather than the eastern border with India.
Economic cooperation mitigating the troubled relationship between India and Pakistan can reduce the US economic aid to Pakistan. It suggests that Washington’s policy rests on a permanent conflict policy between the two neighbouring countries, India and Pakistan, and the policy would have to be revised if increased cooperation between India and Pakistan, in the long run, was to result in improved regional stability and hence development. Pak-Iran economic cooperation results in Pakistan receiving less economic assistance from the US. This suggests that Washington penalizes Pakistan by reducing economic aid if trade expands between Tehran and Islamabad.

Our study concludes that Washington’s nationalism and economic structuralism agenda and its underlying wide-ranging strategic objectives are being accomplished through the foreign policy instruments of the economic assistance programs. The foreign policy instrument plays multiple roles in the South Asian region. It significantly responds (with varying degrees and intensities) to (recipient) Pakistan’s regional, strategic, and economic relations with neighbours and the strategic alignment of regional powers.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes

1. Foreign aid helps enhance state capacity, strengthens procedures and institutional linkages between society and state, and empowers civil society organizations thus instrumental in improving governance (Degnbol-Martinussen 2002). There is a stream of literature that exhibits the positive effects of aid on governance that increases the prospects of receiving more aid (for example, see Kaufmann and Kraay 2002; Ear 2007; Booth 2011; Diamond 2015). However, another stream of literature views foreign aid as reducing the quality of governance, particularly in poor developing countries (for example, see Knack 2001; Bräutigam and Knack 2004; Busse and Gröning 2009; Sarwar, Hassan, and Mahmood 2015; Asongu and Nwachukwu 2016; Blair and Winters 2020).

2. A goal of reducing world poverty might not be motivated by pure altruism. Rather, it might be partially motivated by enlightened self-interest. That is, a world with less poverty might well be less subject to conflict and strife.


12. The model does not find any significant autoregressive component in GDP growth and Russian Arms Exports to India thus they do not appear in the short run error correction model (as their p-values are incompatible with t-Bounds distribution), and their differenced coefficients stand the same as the first lag in the conditional error correction, i.e., 0.532 (p-value of 0.298) and 0.555 (p-value of 0.019), respectively.

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research interest includes modeling and forecasting time series data, the area of bankruptcy prediction, forensic accounting, financial fraud detection, and breast cancer detection, using cutting-edge recursive partitioning techniques.

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**Data availability statement**
The data that support the findings of this study are available from the corresponding author upon reasonable request.

**References**


Appendix


<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Value</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engle-Granger tau-statistic</td>
<td>−7.132</td>
<td>0.012</td>
</tr>
<tr>
<td>Engle-Granger z-statistic</td>
<td>−107.999</td>
<td>0.000</td>
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Table A2. Unit root tests.

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<tr>
<th>#</th>
<th>Variables</th>
<th>t-stat (Prob.)</th>
<th>t-stat (Prob.)</th>
<th>t-stat (Prob.)</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chinese Arms Exports to Pak (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level (intercept)</td>
<td>-3.1272 (0.0316)</td>
<td>-3.0945 (0.0037)</td>
<td>-3.1093 (0.0329)</td>
<td>I(0)</td>
</tr>
<tr>
<td></td>
<td>First Difference (intercept)</td>
<td>-9.2757 (0.0000)</td>
<td>-9.1328 (0.0000)</td>
<td>-9.8387 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Russian Arms Exports to India (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level (intercept)</td>
<td>-2.4862 (0.1255)</td>
<td>-2.4589 (0.0179)</td>
<td>-2.6052 (0.0994)</td>
<td>I(0)</td>
</tr>
<tr>
<td></td>
<td>First Difference (intercept)</td>
<td>-6.1498 (0.0000)</td>
<td>-6.1127 (0.0000)</td>
<td>-6.5225 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Pak-India Trade (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level (intercept &amp; trend)</td>
<td>-2.2481 (0.4525)</td>
<td>-2.1174 (0.0399)</td>
<td>-2.1572 (0.5009)</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td>First Difference (intercept &amp; trend)</td>
<td>-9.2651 (0.0000)</td>
<td>-9.4829 (0.0000)</td>
<td>-9.4031 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Pak-Iran Trade (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level (intercept)</td>
<td>-2.1779 (0.2169)</td>
<td>-1.9356 (0.0594)</td>
<td>-2.3461 (0.1626)</td>
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</tr>
<tr>
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<td>-5.7598 (0.0000)</td>
<td>-5.8091 (0.0000)</td>
<td>-5.7434 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>US Economic Aid (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Level (intercept &amp; trend)</td>
<td>0.9809 (0.9998)</td>
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<td>1.1903 (0.9999)</td>
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<td></td>
<td>First Difference (intercept &amp; trend)</td>
<td>-5.8549 (0.0001)</td>
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<td>-5.8605 (0.0001)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>GDP (US$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level (intercept &amp; trend)</td>
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<td>-2.7594 (0.2193)</td>
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<td></td>
<td>First Difference (intercept &amp; trend)</td>
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<td>-7.1024 (0.0000)</td>
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<td>7</td>
<td>Polity2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Level (intercept)</td>
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<td>-1.9087 (0.0628)</td>
<td>-2.1549 (0.2251)</td>
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<tr>
<td></td>
<td>First Difference (intercept)</td>
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<td>-6.3422 (0.0000)</td>
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</tr>
<tr>
<td>8</td>
<td>Nuclear Warheads</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Level (intercept)</td>
<td>-0.5154 (0.8766)</td>
<td>-1.2767 (0.2130)</td>
<td>4.6475 (1.0000)</td>
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<td></td>
<td>First Difference (intercept &amp; trend)</td>
<td>-2.1769 (0.4874)</td>
<td>-1.9141 (0.0663)</td>
<td>-3.5882 (0.0425)</td>
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<tr>
<td>9</td>
<td>Terrorism (HCTB total deaths)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Level (intercept)</td>
<td>-4.2551 (0.0018)</td>
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<td>First Difference (intercept)</td>
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<td>-2.8316 (0.0081)</td>
<td>-7.0941 (0.0000)</td>
<td></td>
</tr>
</tbody>
</table>

ADF = Augmented Dickey-Fuller test.
DF-GLS = Dickey-Fuller Generalised Least Squares test.
PP = Phillips-Perron test.

Note: The conclusion is drawn on commonalities in results derived from (at least) two unit root tests.

Table A3. F- Bounds test results.

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<tr>
<th>Test Statistic</th>
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<td>6.8897</td>
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<td>1.88</td>
<td>2.99</td>
</tr>
<tr>
<td>k</td>
<td>9</td>
<td>5%</td>
<td>2.14</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5%</td>
<td>2.37</td>
<td>3.6</td>
</tr>
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<td></td>
<td></td>
<td>1%</td>
<td>2.65</td>
<td>3.97</td>
</tr>
<tr>
<td>Actual Sample Size</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>Finite Sample: n = 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>-1</td>
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<td>-1</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>Finite Sample: n = 40</td>
<td></td>
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Table A4. t-Bounds test results.

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<th>Signif.</th>
<th>I(0)</th>
<th>I(1)</th>
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<tbody>
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<td>10%</td>
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<td></td>
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<td>-2.86</td>
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<tr>
<td></td>
<td>2.5%</td>
<td>-3.13</td>
<td>-5.18</td>
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</tr>
<tr>
<td></td>
<td>1%</td>
<td>-3.43</td>
<td>-5.54</td>
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