De-facto States and Aid Dependence: An Analysis of the Impact of Turkish Aid on the Economy of Northern Cyprus

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ABSTRACT

Aid-growth literature often looks at per capita income growth as a measure of aid effectiveness. However, perceiving effectiveness merely as per capita income growth tends to disregard how income is generated or distributed. It also fails to address crucial long-run sustainability issues such as the likelihood of the recipients to manage on their own in the absence of such financial assistance. In this article, aid effectiveness in North Cyprus is analyzed both from a traditional aid-growth nexus as well as an aid-dependence perspective with a focus on the unique de-facto state-and-patron relationship, which places additional emphasis on aid-conditionality and aid-dependence. Looking at the impact of aid on consumption, trade, and government expenditure patterns, we can see evidence for aid being used as a deficit-financing tool, perpetuating the chronicity of the aid-dependent relationship rather than financing future growth and development prospects.

Keywords: Foreign Aid, Aid Effectiveness, Conditionality, Aid-Growth Hypothesis, ARDL Bounds Test.

De facto Devletler ve Dış Yardım Bağımlılığı: Türkiye Yardımlarının Kuzey Kıbrıs Ekonomisi Üzerindeki Etkisinin Analizi

ÖZET

Dış yardım literatürü genellikle dış yardımın etkinliğini kişi başına düşen milli geliri artırma kapasitesi olarak nitelendirir. Halbuki, dış yardımın etkinliğini sadece gelir artışı olarak düşünmek hem gelirin nasıl arttığını hem de nasıl dağıldığını göz ardı eder. Bu perspektif aynı zamanda dış yardımın sürdürülebirliği ve uzun vadede yardıma bağlı ekonomilerin kendi kendilerine yetebilecek noktaya gelebilme potansiyellerini de sorgulamaz. Bu makalede Kuzey Kıbrıs'a yapılan yardımın etkinliği hem geleneksel yardım-büyüme bağlamında, hem de de facto devlet-patron ilişkisi çerçevesinde politik ve ekonomik bağımlılık çerçevesinden değerlendirilmektedir. Türkiye'nin maddi yardımlarının yerel tüketim, dış ticaret ve bütçe harcamaları üzerindeki etkilerine bakıldığı zaman, yardımın kalkınma amaçlı kullanılmaktan ziyade, bütçe açığı kapatmak gibi geçici tampon amacı ile kullanıldığına dair bulgulara rastlanmaktadır. Bu durum, bağımlılığı daha da arttırmakta ve de facto-patron ilişkisini kronikleştirmektedir.

Anahtar Kelimeler: Dış Yardım, Koşulluluk, Yardım-Büyüme Hipotezi, ARDL Bounds Testi.

Introduction

For decades, foreign aid has been used as an instrument for poverty reduction and growth stimulation in the less fortunate economies of the developing world. While the degree to which it has achieved this goal is still cause for controversy, the amount of foreign financial assistance has multiplied in value over time. According to the latest World Bank report, while net official development assistance averaged around 71 billion USD per annum in 1997, it reached and exceeded an annual level of 135 billion USD in 2013.[1] Despite the ample literature, the jury is still out on whether foreign aid is a successful tool for any positive long-term economic impact in receiving economies.

Origins of the efficacy of foreign aid as a means of growth promotion can be traced back to early economic growth models. The Keynesian Harrod-Domar growth model stresses the importance of savings as a source of investment and investment as a source of capital accumulation, which, in turn, catalyzes economic growth. The later neoclassical extension to the Harrod-Domar model, known as the Solow-Swan model, also places savings and capital accumulation at the heart of economic growth. By association, in the absence of local savings, foreign aid should act as a compensatory mechanism and contribute to capital accumulation as a means of promoting economic growth. Therefore, it follows that foreign aid should have a positive association with economic growth.[2] However, early work in the aid-savings literature has found a significant negative effect of foreign aid on savings,[3] hence raising skepticism about whether aid can buy growth.[4] A large number of pioneering researchers in the field, including Papanek, Svensson, and Herzer, and Morrissey, independently failed to find a positive association between aid and economic growth in their cross-country empirical work.[5] On the other hand, there are various examples suggesting a positive long-run influence of aid on economic growth, the most comprehensive one being the work of Juselius, Moller and Tarp.[6] Perhaps the answer may not be as straightforward as a linear relationship between these two variables. Several factors such as the conditions of aid, the degree to which aid allocation is overseen, local economic structure, size of government, and political relationships between donors and recipients are a few considerations when assessing the impact of aid.

This paper utilizes an ARDL bounds-test approach in an attempt to discover short-run and long-run associations specifically between Turkish financial assistance, government size, investment, and growth parameters in North Cyprus with a focus on the position of local government in relation to Turkish political ideologies. In the rest of the paper, we provide a general overview of the relevant literature, describe the unique Turkish-North Cyprus relations from a de facto state perspective and lay the foundation for our empirical analysis. The conclusion is preceded by an in-depth discussion of the results to the empirical analysis.

1   *World Development Indicators*, Washington D.C., World Bank, 2015, p. 15.
2   Yero Balde, "The Impact of Remittances and Foreign Aid on Savings/Investment in Sub-Saharan Africa", *African Development Review*, Vol. 23, No 2, 2012, p. 247-262.
3   Maxwell J. Fry, "Money and Capital or Financial Deepening in Economic Development?", *Journal of Money, Credit, and Banking*, Vol. 10, No 4, 1978, p. 464-75.
4   William Easterly et al., "New Data, New Doubts: A Comment On Burnside And Dollar's 'Aid, Policies, And Growth' (2000)", *Center for Global Development Working Paper 26,* 2003, p. 1-22.
5   Gustav Papanek, "Aid, Foreign Private Investment, Savings, And Growth In Less Developed Countries", *Journal of Political Economy*, Vol. 81, No 1, 1973, p. 120-130; Jakob Svensson, "Aid, Growth and Democracy", *Economics and Politics*, Vol. 11, No 3, 1999, p. 275-297; Dierk Herzer and Oliver Morrissey, "Foreign Aid and Domestic Output in The Long Run", *Review of World Economics*, Vol. 149, No 4, 2013, p. 723-748.
6   Katarina Juselius et al., "The Long-Run Impact of Foreign Aid in 36 African Countries: Insights from Multivariate Time Series Analysis", *Oxford Bulletin of Economics and Statistics*, Vol. 76, No 2, 2013, p. 153-184.

Aid, Aid Effectiveness and Dependence

The Organisation for Economic Co-operation and Development (OECD) defines aid as an official development assistance with at least one-fourth of the sum being unreciprocated. OECD further narrows the scope of aid by leaving military assistance or anti-terrorist activity-related transfers out of the aid parameters.[7] Aid can be seen as an unreciprocated gift when it does not necessitate a formal repayment.[8] Gift-giving is not a new concept. It has been used between groups of people as well as among nations long before formal international exchange and trade practices were put in practice. Mauss defines gift-giving as common practice in primitive trade relations with an implied obligation of reciprocity.[9] An unreciprocated gift would place the recipient in an inferior position in the relationship. From this perspective, one could argue that even when aid is given as a gift, it is likely to have an embedded implication of reciprocity in terms of a hierarchical relationship or a political interest.[10] With this implication, foreign aid can possibly be defined as a government-to-government resource transfer on concessional terms, hoping to achieve or maintain a foreign policy objective of the donor.[11]

Effective use of aid by recipient nations is one of the most scrutinized facets in the foreign aid literature. While foreign aid is expected to increase government spending, when aid is used to finance non-productive and possibly inefficient public sector practices, it does not only fail to promote economic growth, but can also lead to changes in relative prices, adversely affecting the private sector.[12] Using aid as a means of vote-maximizing behavior is also a concern when aid is being channeled into public sector use.[13] When aid is used for short-term deficit financing or vote-maximizing purposes, it can offer temporary relief but may cause more harm in the long run. Ineffective use of aid for such practices has the potential to promote a vicious cycle of aid dependence in the long run, even when transitory beneficial effects may be observed in the short run. At this point, how aid is structured becomes an important consideration.

Foreign aid can follow a military intervention in order to meet the intervening nation's political and economic goals. Once these goals are met, aid can continue to secure them for the long haul.[14] In this sense, aid can be perceived as a means of achieving and maintaining a status quo that would serve the interests of the intervening party. Nevertheless, maintaining a status quo does not have to follow a military intervention. It can also be a means of securing power dynamics in a geographical setting.

7   Jean-Philippe Thérien, "Debating Foreign Aid: Right Versus Left", *Third World Quarterly*, Vol. 23, No 3, 2002, p. 449-466.

8   Tomohisa Hattori, "The Moral Politics of Foreign Aid", *Review of International Studies*, Vol. 29, No 2, 2003, p. 229-247.

9   Grégoire Mallard, "The Gift as Colonial Ideology? Marcel Mauss and the Solidarist Colonial Policy In The Interwar Era", *Journal Of International Political Theory*, Vol. 14, No 2, 2018, p. 183-202.

10   Tomohisa Hattori, "Reconceptualizing Foreign Aid", *Review of International Political Economy*, Vol. 8, No 4, 2001, p. 633-660.

11   Daniel Markovits et al., "Foreign Aid and the Status Quo: Evidence From Pre-Marshall Plan Aid", *The Chinese Journal Of International Politics*, Vol. 12, No 4, 2019, p. 585-613.

12   Paul Mosley et al., "Aid, The Public Sector and the Market in Less Developed Countries", *The Economic Journal*, Vol. 97, No 387, 1987, p. 616-641.

13   Ernesto Crivelli and Sanjeev Gupta, "IMF Conditionality Supports Revenue Collection: Is it Just Tax Rates?", *Applied Economics Letters*, Vol. 25, No 12, 2017, p. 882-885.

14   Emizet Kisangani and Jeffrey Pickering, "The Human Consequences of Foreign Military Intervention", *Defence and Peace Economics*, Vol. 28, No 2, 2015, p. 230-249.

China's generous aid packages to finance North Korea's large trade deficits is perhaps one such strategy. By financing North Korea's rather unstable economy, China keeps North Korea afloat and can, therefore, avoid a massive influx of refugees.[15] Keeping the North Korean peninsula stable also helps avoid the formation of a power vacuum that can potentially bring South Korea or the United States to fill the vacuum.[16]

If not well-defined or managed, budgetary supports are prone to corruption when transparency is an issue.[17] Even when funds are used effectively for a project, there remains the issue of fungibility. While the funds would be used for the intended projects and not raise any red flags from a transparency point of view, the receipt of foreign assistance can free up the funds, which would have been used for the specific project, for other corrupt practices.[18] This can easily be overlooked if the donor's main interest rests with maintenance of the status quo. This does not only reduce the quality of local governance,[19] but significantly undermines the credibility and accountability of local leaders.[20] With larger volumes of financial aid, the recipient government becomes accountable to the donor rather than local citizens when it comes to how money is spent,[21] further diminishing local credibility. Brautigam and Knack study 32 sub-Saharan African economies and find evidence for a worsening quality of governance related to the receipt of foreign aid.[22] The authors also find that when aid becomes persistent over long periods of time and enters in large amounts, institutions tend to get weaker and provide even more incentives for aid agencies.

Large volumes of aid tend to grow the size of the government. This is often attributed to the incumbent leaders' propensity to create jobs for their relatives or people from their birth place as a means of securing votes, all to improve their chances of remaining in the office.[23] Similarly, aid can be used by donor countries to keep certain local political actors in power. There are reports suggesting a causal relationship between increased financial aid and incumbent re-election when aid is increased in the year before an election.[24] Yuichi Kono and Montinola observe that both democratic and dictatorship regimes tend to enjoy leader survival in elections, which can be explained by patterns of foreign aid.[25] Aid can also be perceived as the incumbent government's success when it is directed into proj-

15 Jung-Mi Cha, "China's Geopolitical Perceptions Toward North Korea: China's New Geopolitical Grand Strategy and its Old Geopolitical Perceptions on North Korea", *East and West Studies*, Vol. 31, No 2, 2019, p. 139-167.

16 Markovits et al., "Foreign Aid and The Status Quo", p. 585-613.

17 Ivar Kolstad and Arne Wiig, "Is Transparency the Key to Reducing Corruption in Resource-Rich Countries?", *World Development*, Vol. 37, No 3, 2009, p. 521-532.

18 Jean-Paul Azam, "Aid Dependence Reconsidered", *World Bank Policy Research Working Paper Series 2144*, 1999, p. 1-21.

19 Stephen Knack, "Aid Dependence and the Quality of Governance: Cross-Country Empirical Tests", *Southern Economic Journal*, Vol. 68, No 2, 2001, p. 310-329.

20 Rachel Hayman, "Budget Support and Democracy: A Twist in the Conditionality Tale", *Third World Quarterly*, Vol. 32, No 4, 2011, p. 673-688.

21 Deborah Brautigam, "Governance, Economy, And Foreign Aid", *Studies in Comparative International Development*, Vol. 27, No 3, 1992, p. 3-25.

22 Deborah Bräutigam and Stephen Knack, "Foreign Aid, Institutions, And Governance in Sub-Saharan Africa", *Economic Development And Cultural Change*, Vol. 52, No 2, 2004, p. 255-285.

23 Sultan Mehmood and Avner Seror, "The Political Economy of Foreign Aid and Growth: Theory and Evidence", *Economic Science Institute Working Papers 19–10*, 2019, p. 1-64.

24 Ryan Briggs, "The Influence of Aid Changes on African Election Outcomes", *International Interactions*, Vol. 41, No 2, 2015, p. 201-225.

25 Daniel Yuichi Kono and Gabriella R. Montinola, "Does Foreign Aid Support Autocrats, Democrats, Or

ects that promote public satisfaction. Even when the government or its leaders have no influence on how aid is distributed and what it targets, they are still likely to claim credit for political gains.[26]

When aid becomes a normal part of fiscal policy, it has failed as a temporary relief instrument and has turned into a chronic problem of dependence. This is partly because foreign aid is often seen as a potential source of rents.[27] Rent-seeking activity can take the form of public sector employment as a means of cronyism or vote-seeking behavior. Even in the absence of rent-seeking behavior, generous aid packages are known to have hindered private sector investment by supporting parastatal and state establishments in several investments that would have been made by private sector establishments otherwise.[28]

First suggested by the World Bank as an observation, negative returns to higher volumes of aid have been reported in empirical studies.[29] Because foreign aid increases the availability of public funds, it may also negatively influence taxation capabilities. Governments may intentionally fail to collect taxes effectively to gather political support in upcoming elections. This would provide a possible explanation for the empirical evidence provided by Brautigam and Knack,[30] suggesting a significant negative relationship between foreign aid and the share of taxes in GDP. Benedek et al. also find a statistically significant negative relationship between foreign assistance and domestic tax revenues. The authors estimate a ten-cent reduction in tax revenues for every dollar received in financial assistance.[31]

Donors often have vested interests in the countries they help financially. These interests can be a reason for having a low threshold for project acceptance criteria in the country of interest.[32] Political agendas often tend to have a long-term orientation, which can make aid a long-term strategy. A long-term financial assistance, in turn, has the potential to create aid-dependence. This could be intentional or a natural outcome of chronically inefficient allocation of resources.

North Cyprus: A De-facto State as an Aid Recipient

As the only country to officially recognize the self-proclaimed state of Turkish Republic of North Cyprus,[33] Turkey's existence in the political and economic domains is felt heavily by the local population. From the point of view of the classical criteria of statehood (population, territory and public authority), North Cyprus can almost be seen as an independent state.[34] However, considering the

Both?", *The Journal of Politics*, Vol. 71, No 2, 2009, p. 704-718.

26 Cesi Cruz and Christina Schneider, "Foreign Aid and Undeserved Credit Claiming", *American Journal of Political Science*, Vol. 61, No 2, 2017, p. 396-408.

27 Svensson, "Aid, Growth and Democracy", p. 275-297; Peter Boone, "Politics and The Effectiveness of Foreign Aid", *European Economic Review*, Vol. 40, No 2, 1996, p. 289-329.

28 David Dollar and Lant Pritchett, *Assessing Aid: What Works, What Doesn't, and Why*, New York, Oxford University Press, 1999, p. 64.

29 Muhammed Islam, "Regime Changes, Economic Policies and the Effect of Aid on Growth", *The Journal of Development Studies*, Vol. 41, No 8, 2005, p. 1467-1492

30 Bräutigam and Knack, "Foreign Aid, Institutions, And Governance in Sub-Saharan Africa", p. 255-285.

31 Dora Benedek et al., "Foreign Aid and Revenue: Still A Crowding-Out Effect?", *Finanzarchiv*, Vol. 70, No 1, 2014, p. 67-96.

32 Axel Dreher et al., "Geopolitics, Aid, and Growth: The Impact of UN Security Council Membership on the Effectiveness of Aid", *The World Bank Economic Review*, Vol. 32, No 2, 2018, p. 268-286.

33 Ahmet Özyigit, "The Impact of Aid on the Economy of Northern Cyprus", *International Journal of Middle East Studies*, Vol. 40, No 2, 2008, p. 185-187.

34 Stefan Talmon, "The Security Council as World Legislature", *American Journal of International Law*, Vol. 99, No 1, 2005, s. 175-193.

Turkish military existence on the island as well as the significant amount of funds being transferred to North Cyprus on an annual basis, independence is far from being a reality.[35]

A patron-state relationship is one where the former, an internationally recognized entity, provides political, economic and military assistance to the latter, which lacks universal recognition.[36] De-facto states can exhibit a large degree of divergence with respect to their level of recognition, democracy, violent behavior, military involvement and the capacity to act independently. Nevertheless, de-facto states tend to require assistance in various domains of life for their survival, which often comes at a price.[37] Recognition of a de-facto state is often focused on strategic objectives rather than other principles.[38] In such relationships, assistance comes with conditions and many other strings attached.

Conditionality was initially a concept developed by the International Monetary Fund (IMF) where loans would be disbursed with the mutual understanding that they would be used to reduce budget and trade deficits.[39] In conditionality literature, the main focus is the effectiveness of attempts at making structural adjustments in view of the level of democracy, the volatility of aid, and the domestic economic forces on the recipient's side.[40] In contrast to the traditional aid-conditionality literature, structural change can, in fact, be an undesired outcome of the financial assistance from the donor's point of view, when the existing status quo is what is being financed.

North Cyprus is a unique de-facto state which demonstrates an apparently peaceful, democratic mode of governance and a certain degree of independence. Nevertheless, Turkish patronage is strongly felt at times of political disagreements between the two governments. One such example is when North Cyprus's newly elected president's speech in 2015 as to how the relationship between North Cyprus and Turkey should evolve into something more of "neighboring states" rather than the current "parent-child" status sparked a quick and harsh verbal retort from the Turkish President Recep Tayyip Erdogan.[41] This was followed by swift economic action, namely the suspension of Turkish aid for a long period of time to the degree to which local public wages could not be paid on time.[42] This appears to be a method of intervention utilized to align political views when they are not well-aligned. Similar punishment-and-reward strategies have been a part of Turkish for-

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35 Frank Hoffmeister, „Cyprus V. Turkey. App. No. 25781/94", *American Journal of International Law,* Vol. 96, No 2, 2002, p. 445-452.

36 Slawomir Debski et al., "EU Policy Options towards Post-Soviet De Facto States", *The Polish Institute of International Affairs Policy Paper*, Vol. 6, No 59, 2017, p. 1-9.

37 Nina Caspersen, "The Pursuit of International Recognition After Kosovo", *Global Governance: A Review of Multilateralism and International Organizations,* Vol. 21, No 3, 2015, p. 393-412.

38 Adrian Florea, "De Facto States: Survival and Disappearance (1945–2011)", *International Studies Quarterly,* Vol. 61, No 2, 2017, p. 337-351.

39 Thomas Stubbs et al., "How to Evaluate the Effects of IMF Conditionality", *The Review of International Organizations,* Vol. 15, No 1, 2018, p. 29-73.

40 Jonathan Temple, "Aid and Conditionality", Dani Rodrik and Mark Rosenzweig (eds.), *Handbook of Development Economics*, Amsterdam, Elsevier, 2010, p. 4415-4523.

41 İbrahim Ayberk, Sait Akşit and Ali Dayıoğlu, "Bir De Facto Devlet Olarak Kuzey Kıbrıs'ta Sivil Toplum: Toplumsal Tepki, Kıbrıs Türk Sendikaları ve Türkiye'yle İlişkiler", *Uluslararası İlişkiler*, Vol. 16, No 64, 2019, p. 127-144.

42 Mert Özdağ, "Maaşlar Ödenmedi Tarihi'miz Var Bizim", *Yenidüzen*, 25 February 2016, https://www.yeniduzen.com/maaslar-odenmedi-tarihimiz-var-bizim-8147yy.htm. (Accessed 16 January 2021).

eign policy in North Cyprus during political elections, the most recent being the 2020 presidential elections, during which Turkish government took an active role during the campaign period and publicly endorsed the right-wing candidate Ersin Tatar via public appearances. Erdoğan, during a mutual press conference with Tatar, announced the opening of the seafront of Varosha, a restricted zone in North Cyprus under UN directives, for public use, to appeal to the conservative nationalist voter base.[43] The press conference was used as a platform to signal to voters that the candidate with parallel political views to those of the Turkish government should come to power for better economic and political relations.[44]

With continuous financial assistance over the years, Turkey has secured a hierarchical relationship allowing her a strong voice in the internal and external affairs of North Cyprus. While this aligns with the "aid-conditionality" literature, the conditions appear to be more politically oriented than economically motivated. If the donor is aware of the ineffective use of aid and continues to provide it regardless, the ulterior motives should be questioned, which brings us to the strategic importance of the location of Cyprus along energy routes.[45] It is quite likely that the possible economic benefits of the recent natural hydrocarbon discoveries in the Mediterranean Sea are a strong motive for Turkish political existence on the island,[46] which can possibly explain the changing nature of interventions from covert to overt over the past few years. As a net-importer of energy, Turkey would gain immensely from a share of the hydrocarbon reserves. Furthermore, having strong control over the area could possibly make it a major transport hub, accentuating further monetary benefits.

Perhaps the Turkish interest in Northern Cyprus is not only a matter of economic gains, but also of security.[47] Loss of power in the region could create a vacuum to be filled by other actors such as Greece, Egypt or Israel, which would weaken Turkish foreign policy strategies.[48]

For a better understanding of political and economic implications of aid on the economy of North Cyprus, let's turn our focus to certain measurable economic indicators in relation to financial aid. Figure 1 shows time-series data for annual Turkish aid, local public expenditures, imports, and private investment as a share of GDP since the establishment of the de-facto state.

43 Dahlia Schleindin, "Changing Tides in Divided Cyprus", *Foreign Policy*, 30 October 2020, https://foreignpolicy.com/2020/10/30/north-cyprus-ersin-tatar-erdogan-turkey-varosha/ (Accessed 31 October 2020).

44 Hilal Köylü, "Kuzey Kıbrıs'ta Seçim: Halk Gerilim Siyaseti İstemiyor", *Deutsche Welle*, 18 October 2020, https://www.dw.com/tr/kuzey-kıbrısta-seçim-halk-gerilim-siyaseti-istemiyor/a-55310987 (Accessed 17 December 2020).

45 Kıvanç Ulusoy, "The Cyprus Conflict: Turkey's Strategic Dilemma", *Journal of Balkan and Near Eastern Studies*, Vol. 18, No 4, 2016, p. 393-406.

46 Ilksoy Aslim, "Energy Sources in the Eastern Mediterranean: Contributor to Solve the Problems in Cyprus, Turkey, and Israel Triangle?", *Athens Journal of Mediterranean Studies*, Vol. 4, No 1, 2017, p. 37-46.

47 Gareth Winrow, "Discovery of Energy Reserves in the Levant and Impacts on Regional Security", *Uluslararası İlişkiler*, Vol. 15, No 60, 2018, p. 45-57.

48 Mustafa Aydın and Cihan Dizdaroğlu, "Levantine Challenges on Turkish Foreign Policy", *Uluslararası İlişkiler*, Vol. 15, No 60, 2018, p. 89-103.

Figure 1: Aid, Public Expenditures and Private Investment as a Share of GDP in North Cyprus (1983-2017)
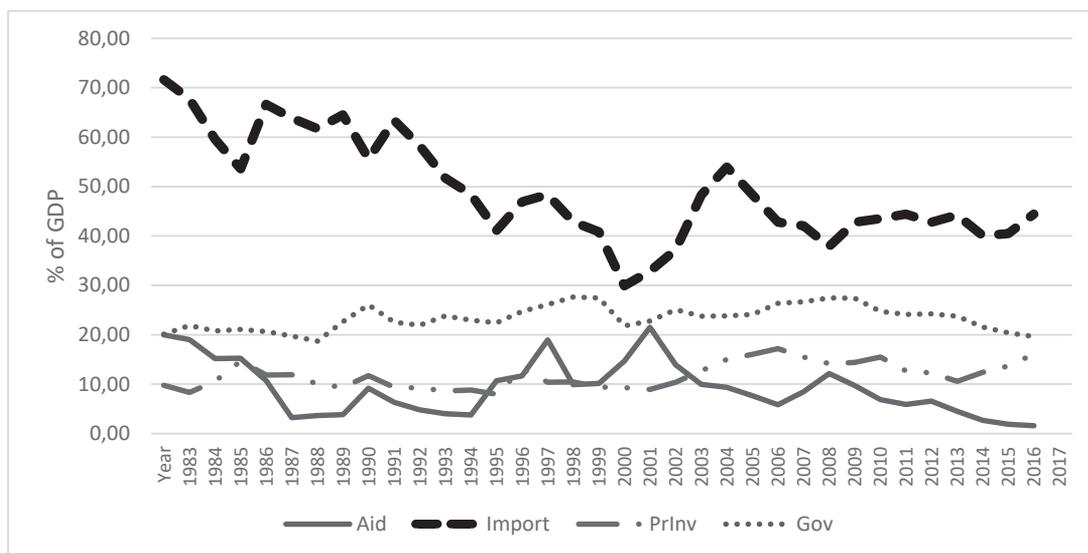
Source: Own calculations based on 2018 statistics from the State Planning Organization (SPO).

The Turkish Republic of North Cyprus, albeit unrecognized, was established in 1983; therefore, the large amounts of Turkish aid may have initially been an attempt to finance the rebuilding of a state and restoring the status quo. Private investment, on the other hand, has been relatively stable around 10 percent over the past 30 years. Recently, there appeared an upward trend, around the time financial aid began its decline. However, no clear association can be inferred based on this graphic.

When aid is absorbed within the local economy, it will tend to increase domestic expenditure beyond the local production capacity. In other words, aid without capital outflow should be expected to increase net imports.[49] The above figure does not immediately suggest a positive association between foreign aid and imports. It almost looks like the two lines are inverted, suggesting a negative relationship, if anything. However, we need to keep in mind that funds received are not necessarily received at the beginning of a calendar year and therefore its effects on imports may linger into the following year.

Public expenditures have similar upward and downward trends with financial aid. While the relationship is not a perfect correlation, it shows similarity in behavior. Keeping in mind that public expenditures do not include public investment, we are predominantly looking at social security, pension, and public wages.

Another important theory we would like to test is whether donor behavior correlates with the type of government in the recipient. Left-wing governments have traditionally been in support of reunification of the island, while the right-wing governments are known for their Turkish nationalism

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49 Jonathan Temple and Nicolas Van De Sijpe, "Foreign Aid and Domestic Absorption" *Journal of International Economics*, Vol. 108, 2017, p. 431–443

and closer relationships with Turkey.[50] We would like to empirically test whether Turkey appears to offer preferential treatment with respect to local governments in North Cyprus when it comes to its annual aid packages.

Data and Model

Data

The main objective of this paper is to investigate a possible causal relationship between Turkish financial aid, public/private sector behavior, and economic growth, with a focus on economic volatility due to the hierarchical relationship with Turkey. While government size is often a neglected component in the financial aid literature, we believe that it can be used as a proxy for aid-dependence, especially in the context of a small economy where small numbers can have profound effects at the aggregate level. We propose that North Cyprus utilizes Turkish aid to finance public sector expenditures as a means of survival and as such, inflow of aid not only translates into dependence but also secures voter loyalty, as a large portion of public spending is on public wages.

We further hypothesize that Turkey tends to penalize the North Cyprus economy by adjusting the volume of aid downwards when the former believes the latter's political views are not aligned with its own. For this end, we introduce a dummy variable for the type of government in power in North Cyprus as a determinant of the volume of aid.

When used effectively, aid is hypothesized to promote a favorable climate for private investment. Nevertheless, when chronic receipt of aid is viewed as a source of dependency and vulnerability, it may render the economy unfavorable for investment. Even when aid is used effectively for public investment projects, it can result in crowding out of private investment, suggesting a negative association between aid and private investment.[51]

The main purpose of including imports is to assess whether foreign aid is fully absorbed within the local economy (as evidenced by increased net imports). Secondly, we would like to test for a long-run cointegrating relationship between imports and economic growth to observe any possible evidence for an import-led growth hypothesis.

The annual data comes from the state planning organization of Northern Cyprus and spans the period between 1983 and 2017,[52] starting with the declaration of North Cyprus as a separate entity. Data for later years were not available at the time of our analysis. Variables used in our framework are as follows:

LAid: Turkish financial assistance is proxied by the logarithmic form of Turkish financial aid as a share of GDP in percentage terms as proposed by Mallik (2008), Young and Sheehan (2014) for the years 1983-2017.

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50 Clement Dodd, "Politics in the Turkish Republic of Northern Cyprus", *The Turkish Yearbook of International Relations*, Vol. 22, 1992, p. 37-49.

51 Dierk Herzer and Michael Grimm, "Does Foreign Aid Increase Private Investment? Evidence From Panel Cointegration", *Applied Economics,* Vol. 44, No 20, 2011, p. 2537-2550.

52 *Sosyal ve Makroekonomik Göstergeler*, Lefkoşa, Devlet Planlama Örgütü, 2018.

Data used for our model have been made available at the following link: https://doi.org/10.7910/DVN/NVKHZI

LGov: Government size is proxied by the logarithmic form of total annual public sector expenditures as a share of GDP, in percentage terms, between 1983-2017. Public sector investment is subtracted from the total spending in order to come up with non-investment type of public sector spending. The reason for the selection of this variable is to assess the likelihood of political corruption, which leads to higher rates of public sector spending as a vote-maximizing behavior.

LImport: Import variable is used to estimate the volume of imports as a percentage of GDP in the logarithmic form to test how much aid is absorbed within the local economy.

LPrInv: The size of private investment is proxied by the share of private investment in GDP as a percentage, in its logarithmic form. It is used in our model for two purposes: first, to assess how much it contributes to economic growth, and second, how much aid is effective in promoting private investment, which should be the ultimate goal of foreign aid, when it is considered as a short-term assistance to compensate for the lack of local funds for investment.

LY: Economic growth is proxied by the annual logged real GDP per capita between the years 1983-2017.

Left: We use a dummy variable to represent the years of governance by left or left-dominated governments in North Cyprus. We assign a variable of 1 for all the left-wing or left-wing dominated governments and a value of 0 for the right wing or right-wing dominated governments.

Logarithmic transformation is applied to most macroeconomic variables in order to reduce variability and display a more normal distribution. Therefore, we use a logarithmic transformation in our variables.

Model Approach and Estimation

Most macroeconomic and financial time series data are known to be non-stationary, meaning there is a permanent stochastic trend that persists. The status of stationarity determines the modeling approach; therefore, when modeling variables in time-series analysis, stationarity versus non-stationarity should be established via unit root testing before proceeding with model selection. When non-stationary, the variables are stabilized by taking their first difference. To assess the order of integration of our variables, the augmented Dickey–Fuller test (ADF)[53] is conducted. The selection of the optimal lag length is performed using the Akaike Criteria (AIC).

For testing a cointegration relationship between our variables, we use the Autoregressive Distributed Lag (ARDL) bounds testing approach developed by Pesaran, Shin and Smith, which allows testing for both short-term and long-term relationships.[54] The main reason for our choice stems from the superiority of ARDL modeling in relatively smaller sample sizes.[55] Furthermore, ARDL modeling

53 David A. Dickey and Wayne A. Fuller, "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root", *Econometrica*, Vol. 49, No 4, 1981, p. 1057-1072.

54 M. Hashem Pesaran et al., "Bounds Testing Approaches to The Analysis of Level Relationships", *Journal of Applied Econometrics*, Vol. 16, No 3, 2001, p. 289-326.

55 Subrata Ghatak and Jalal U. Siddiki, "The Use of the ARDL Approach In Estimating Virtual Exchange Rates in India", *Journal Of Applied Statistics*, Vol. 28, No 5, 2001, p. 573-583.

eliminates the need for the variables to be integrated at the same order.[56] The long-run relationship is established based on the following unrestricted (conditional) error correction models:

$$\Delta logY_t = b_0 + \sum_{i=0}^{q1} b_1 \Delta log\, Aid_{t-i} + \sum_{i=0}^{q2} b_2 \Delta \log Gov_{t-i} + \sum_{i=0}^{q3} b_3 \Delta \log Import_{t-i}$$
$$+ \sum_{i=0}^{q4} b_4 \Delta \log PrInv_{t-i} + \sum_{i=1}^{p} b_5 \Delta log\, Y_{t-i} + b_6 \log Aid_{t-1}$$
$$+ b_7 \log Gov_{t-1} + b_8 \log Import_{t-1} + b_9 \log PrInv_{t-1} + b_{10} \log Y_{t-1}$$
$$+ b_{11} Log\, Left_{t-1} + u_t$$

<div align="right">Equation (1)</div>

$$\Delta logAid_t = b_0 + \sum_{i=0}^{q1} b_1 \Delta log\, Y_{t-i} + \sum_{i=0}^{q2} b_2 \Delta \log Gov_{t-i} + \sum_{i=0}^{q3} b_3 \Delta \log Import_{t-i}$$
$$+ \sum_{i=0}^{q4} b_4 \Delta \log PrInv_{t-i} + \sum_{i=1}^{p} b_5 \Delta log\, Aid_{t-i} + b_6 \log Y_{t-1}$$
$$+ b_7 \log Gov_{t-1} + b_8 \log Import_{t-1}$$
$$+ b_9 \log PrInv_{t-1} + b_{10} \log Aid_{t-1} + b_{11} Log\, Left_{t-1} + u_t$$

<div align="right">Equation (2)</div>

where $\Delta logY$, $\Delta logAid$, $\Delta logGov$, $\Delta logImport$ and $\Delta logPrInv$ are the first differences of the logarithmic forms of the corresponding variables. P represents the optimal lag for the dependent variable and q_1, q_2, q_3 and q_4 represent the optimal lag for the independent variables.

Equation (1) is estimated to test the presence of a long-term relationship between the variables of interest using per capita growth as the dependent variable. Equation (2) uses Aid as the dependent variable to explain how well the amount of aid can be explained by the other macroeconomic indicators. What we are interested in with this estimation is whether the amount of aid is conditional on a sound macroeconomic environment, as might be evidenced by a positive association between private investment and economic growth. A negative association with non-investment government expenditures is expected if the donor tries to penalize the recipient for non-effective use. By the same token, a positive long-term relationship can indicate a dependency relationship with an increased need for aid to finance an increased amount of government expenditures that are not directed towards investment.

In these equations, we test the null hypothesis suggesting no cointegration, meaning the absence of a long-term relationship between these variables. The absence of a long-term relationship coincides with zero coefficients for Aid_{t-1}, Gov_{t-1}, $Import_{t-1}$, $PrInv_{t-1}$, Y_{t-1}, $Left_{t-1}$; therefore, the null hypothesis can be stated as follows:

H_0: $b_6 = b_7 = b_8 = b_9 = b_{10} = b_{11} = 0$.

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56 M. Hashem Pesaran, "The Role of Economic Theory in Modelling the Long Run", *The Economic Journal*, Vol. 107, No 440, 1997, p. 178-191.

Rejection of the null hypothesis will imply a long-run relationship between the variables of choice in this analysis. The F-statistic provided by Bound's testing approach does not specify exact critical values. However, Pesaran, Shin and Smith provide a lower bound and an upper bound for the critical values, where an F-test below the lower bound implies stationarity of the variables at the level, and therefore, no cointegration, and an F-test above the upper bound implies cointegration.[57] When the F-test falls between the lower and upper bounds, the test is inconclusive.

One of the most important assumptions of the ARDL bound's test approach is that the errors must be serially independent. We use the Breusch–Godfrey serial correlation LM test in order to test the null hypothesis of serially independent errors. We also employ the Durbin-Watson testing for serial correlation for confirmation. Heteroskedasticity and normality of errors are also used as markers for residual diagnostics.

Another important consideration when using a model with autoregressive structure is to check that the model is dynamically stable. In order to ensure dynamic stability, we employ the CUSUM and CUSUMSQ. The CUSUM and CUSUMSQ tests developed by Brown, Durbin and Evans are aimed at testing the stability of variance of the model.[58] Once we have tested the stability and diagnostics, we can proceed with the Bound's testing approach to unravel a long-term relationship between our variables.

The long-run coefficients in the ARDL model are estimated using the following equations:

$$logY_t = c_0 + \sum_{i=1}^{q} c_1 \ log \ Y_{t-i} + \sum_{i=0}^{q} c_2 \log Aid_{t-i} + \sum_{i=0}^{q} c_3 \log Gov_{t-i}$$
$$+ \sum_{i=0}^{q} c_4 \log import_{t-i} + \sum_{i=0}^{q} c_5 \ log \ Prinv_{t-i} + u_t$$

<div align="right">Equation (3)</div>

$$logAid_t = c_0 + \sum_{i=1}^{q} c_1 \ log \ Aid_{t-i} + \sum_{i=0}^{q} c_2 \log Y_{t-i} + \sum_{i=0}^{q} c_3 \log Gov_{t-i}$$
$$+ \sum_{i=0}^{q} c_4 \log import_{t-i} + \sum_{i=0}^{q} c_5 \ log \ Prinv_{t-i} + u_t$$

<div align="right">Equation (4)</div>

After estimating the long-term coefficients, we then employ an error correction model to estimate the short-run coefficients.

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57 Pesaran et al., "Bounds Testing Approaches to The Analysis Of Level Relationships", p. 289-326.

58 Robert Brown et al., "Techniques for Testing the Constancy of Regression Relationships Over Time", *Journal of The Royal Statistical Society: Series B (Methodological)*, Vol. 37, No 2, 1975, p. 149-163.

$$\Delta logY_t = c_0 + \sum_{i=1}^{q} c_1 \Delta \log Y_{t-i} + \sum_{i=0}^{q} c_2 \Delta \log Aid_{t-i} + \sum_{i=0}^{q} c_3 \Delta \log Gov_{t-i}$$

$$+ \sum_{i=0}^{q} c_4 \Delta \log import_{t-i} + \sum_{i=0}^{q} c_5 \Delta log\, Prinv_{t-i} + c_6\, \varepsilon_{t-1} + u_t$$

<div align="right">Equation (5)</div>

$$\Delta logAid_t = c_0 + \sum_{i=1}^{q} c_1 \Delta \log Aid_{t-i} + \sum_{i=0}^{q} c_2 \Delta \log Y_{t-i} + \sum_{i=0}^{q} c_3 \Delta \log Gov_{t-i}$$

$$+ \sum_{i=0}^{q} c_4 \Delta \log Import_{t-i} + \sum_{i=0}^{q} c_5 \Delta log\, Prinv_{t-i} + c_6\, \varepsilon_{t-1} + u_t$$

<div align="right">Equation (6)</div>

The short-run coefficients for the variables used in our analysis are given as c_1, c_2, c_3, c_4 and c_5. ε_{t-1} is defined as the error correction term which signifies the speed of adjustment to the long-run equilibrium. By definition, this term is expected to be negative and between 0 and 1. The precise number can be interpreted as the percentage of adjustment that is possible within a year.

Results and Interpretation

Stationarity Testing

Our empirical analysis begins with unit root testing to establish the order of integration of the variables used in our study. The unit root properties of our variables are studied using the Augmented Dickey-Fuller (ADF) unit-root test in e-views 9. The results of ADF testing are shown in table 1.

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	Level I(0)		First Difference I(1)	
	Intercept	Trend +Intercept	Intercept	Trend + Intercept
LY	-1.45	-1.33	-4.86***	-5.06***
Laid	-1.49	-1.70	-5.23***	-4.47***
Lgov	-2.30	-1.90	-5.55***	-6.30***
LPrInv	-2.16	-2.79	-6.80***	-6.69***
LImport	-2.26	-2.42	-5.62***	-6.01***

Note: *, **, *** denote significance at 10%, 5% and 1%, respectively.

The empirical evidence from the ADF testing suggests that all of the variables included in the model are integrated of order one, I(1). This means the variables are non-stationary in their level but they become stationary in their first difference.

Residual and Stability Diagnostics

Before establishing a long-term relationship, the model needs to fulfill certain diagnostic criteria. For this end, we test for serial correlation, heteroskedasticity, and variable stability. Table 2 summarizes the diagnostic testing performed on both ARDL models using LY and LAid as dependent variables.

Table 2: Residual and Stability Diagnostics

Equation	LY = f(LAid, LGov, LImport, LPrinv, Left)	LAid = f(LY, LGov, LImport, LPrinv, Left)
R^2	0.98	0.79
Adj. R^2	0.98	0.73
DW Statistic	2.19	1.87
SE of Regression	0.11	0.33
Breusch–Godfrey LM Test (Chi^2)	0.29	0.15
Breusch—Pagan–Godfrey Test (Chi^2)	0.42	0.19
Ramsey's RESET Test (F-test prob.)	0.92	0.17
CUSUM	*	*
CUSUM^2	*	*

Note: CUSUM and CUSUM2 Test result * suggests staying within the lines with 5% level of significance.

Both models appear to be free from heteroskedasticity and serial correlation issues based on appropriate diagnostic testing. Stability testing including Ramsey's RESET testing as well as CUSUM and CUSUMSQ provide evidence for a stable model in both equations. CUSUM plots can be seen in figure 2.

LY = f(LAid, LGov, LImport, LPrinv, Left)
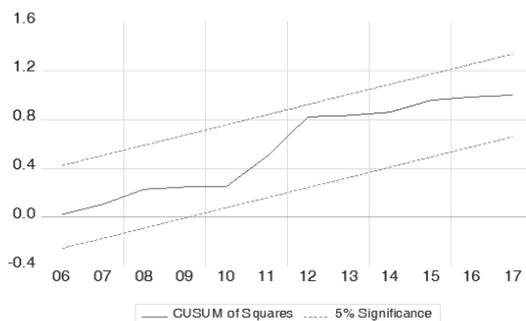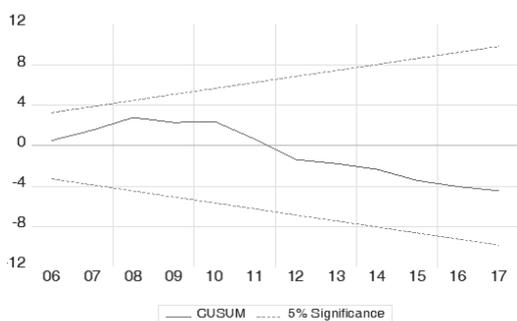
Figure 2: CUSUM and CUSUMSQ Plots

LAid = f(LY, LGov, LImport, LPrinv, Left)
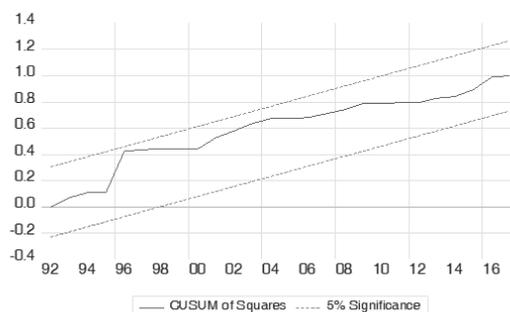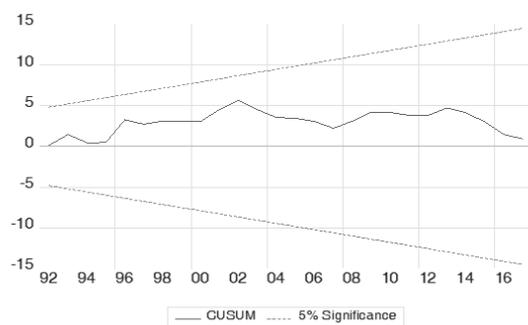
Long-Run Dynamics

We proceed with bound testing for both models using the unrestricted error correction model. Lag orders and the F-statistics for the bound testing are provided in table 3. Estimation output of equations (1) and (2) provide us with the cointegration status of our variables in the ARDL model. Equation (1) gives us an F-statistic which is higher than the I(1) bound at 5% and 10% and close to the I(1) value for 2.5% significance level. Therefore, we reject the null hypothesis that there is no cointegration and conclude that there is a cointegrating relationship at 5% significance level. For the Aid equation, the F-statistic is given as 4.74, which is higher than the higher bound at 2.5% significance level. The F value provides evidence for a cointegrating relationship; therefore, we reject the null hypothesis.

Table 3: Results of ARDL Bounds Testing

Equation 1 (ΔLY) Lag Order: (1,2,0,1,0) F Statistic: 4.48		Equation 2 (ΔLAid) Lag Order: (1,0,0,0,2) F Statistic: 4.74	
Critical Value Bounds for k=4		**I(0)**	**I(1)**
Significance Level			
10%		2.45	3.52
5%		2.86	4.01
2.5%		3.25	4.49
1%		3.74	5.06

Note: The critical values are extracted from Pesaran, Shin and Smith (2001).

The orders of ARDL model $(p, q_1, q_2, q_3$ and $q_4)$ are selected using the AIC from the bound's test process. Using the ARDL lag order, equations (1) and (2) are used to estimate the long-term coefficients of our variables. Table 4 provides the long run elasticities between per capita income and foreign aid, government spending, imports and private investment when per capita income acts as the dependent variable in the middle column.

Table 4: ARDL Estimation of the Long-Term Coefficients

Variable	Equation 3 (LY) Coefficient (T-Statistic)	Equation 4 (LAid) Coefficient (T-Statistic)
LY		-0.61 (-1.57)
LAid	-0.10 (-0.41)	
LGov	3.42 (4.89)***	4.57 (3.52)***
LImport	-0.75 (-1.51)	1.91 (3.21) ***
LPrinv	0.45 (0.62)	0.10 (0.10)

Note: *, **, *** denote significance at 10%, 5% and 1%, respectively.

While the coefficient for foreign aid is negative, it does not reach statistical significance. Therefore, one could say that aid does not have a significant impact on economic growth in the long run. Interestingly, private investment also appears to be not a significant contributor to economic growth in the long run. The only variable with a significant coefficient is government spending. The highly significant coefficient suggests that a 1 percent increase in government spending results in over 3 percent increase in per capita income, suggesting that Wagner's law may hold in North Cyprus. More recent literature often suggests that government expenditures tend to hamper economic growth,[59] as an increase in the size of government is often seen as a sign of inefficiency. Nevertheless, considering that over one-third of government expenditures are spent on public sector wages and almost one-fourth of the entire population are dependent on public sector employment,[60] the growth promoting effect of government spending can be attributed more to demand-led growth. Knowing the economic realities in a country is quite important when interpreting results of econometric modeling. Otherwise, incorrect policy implications can be inferred from misleading results.

In equation 4, we use foreign aid as the dependent variable. In this equation, we seek to explain whether the amount of aid depends on local macroeconomic variables. We hypothesize that foreign aid is used as a means of financing deficits of an unsustainable economic system that spends more than it generates. Based on our findings, there is a positive and weakly significant relationship between government expenditures and the amount of aid. The higher the amount of government expenditures, the more aid is received. This finding complements our suspicion that aid might be used and perhaps even relied on as a means of covering public spending. Similarly, we find a large and statistically significant relationship between the volume of imports and foreign aid as well. A 1 percent increase in imports increases foreign aid by almost 2 percent, suggesting that aid is perhaps also used to finance trade deficits. There appears to be no long-run relationship between economic growth and aid. Next, we turn our attention to the short-run dynamics of the error correction model.

Short-Run Dynamics

The short-term coefficients and the error correction term are provided by the estimation output of equations (5) and (6) with LY and LAid as the dependent variables, respectively. Table 5 provides information for the short-term coefficients of our equations.

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59 Stephen M. Miller and Frank S. Russek, "Fiscal Structures and Economic Growth at the State and Local Level", *Public Finance Review,* Vol. 25, No 2, 1997, p. 213-237.

60 *Sosyal ve Makroekonomik Göstergeler*, 2018.

Table 5: Error Correction Representation for Short-Term Coefficients

Equation (5) ΔLY as Dependent Variable			
Regressors	**Coefficient**	**T-Statistic**	**Probability**
D Laid	-0.02	-0.48	0.65
D LAid (-1)	-0.13	-2.76	0.01***
D Limport	0.47	2.92	0.01***
Left	0.12	2.94	0.01***
E_{t-1}	-0.18	-5.11	0.00***

Equation (6) ΔLAid as Dependent Variable			
Regressors	**Coefficient**	**T-Statistic**	**Probability**
D Lprinv	0.197	0.58	0.57
D LPrinv (-1)	0.875	2.55	0.02***
Left	-0.173	-1.71	0.05**
E_{t-1}	-0.498	-5.25	0.00***

Note: *, **, *** denote significance at 10%, 5% and 1%, respectively.

In equation (5), the E_{t-1} error correction term coefficient is negative, between o and 1, and statistically significant. The error correction term measures the speed of adjustment of the equilibrium repair in a dynamic ARDL model. A -0.18 coefficient for the error correction term suggests that 18% of a short-run shock which causes a deviation from the long-run equilibrium is corrected within a year. Foreign aid with a lag of one year appears to be related to negative economic growth in the short run. Given the negative coefficient, we have evidence to believe that Turkish aid is used ineffectively.

Imports appear to have a positive and significant relationship with economic growth in the short run. While this falls short of providing evidence for import-led growth, it suggests that imports can generate a short-term per capita growth. This may be due to the nature of imported products' ability to generate local consumption.

Our dummy variable "Left" appears to have a positive and statistically significant coefficient, suggesting that left governments have the tendency to observe higher economic growth.

Equation (6) provides us with short-term coefficients for the aid equation. The E_{t-1} error correction term suggests that 49.8% of short-run deviations from the long-run equilibrium is corrected within a year.

One of our hypotheses was that left and left-dominated governments would receive less aid from Turkey due to differences in political views. The negative and statistically significant coefficient for the dummy variable "Left" shows that there is a negative association between the amount of aid and the left governments in North Cyprus. One might argue that Turkish governments tend to penalize North Cyprus by adjusting aid downward in the presence of left governments.

Private investment also appears to have a short-run positive association with the volume of aid. One explanation behind this can be the availability of incentives and government funding for private investments. The Northern Cyprus development bank offers loans with low rates of interest, no re-

payment for a period of two years, and long-term repayment alternatives. While it has been criticized for political corruption, the bank has provided substantial amounts of funds for private investors over the years.[61] More aid can possibly translate into more funds channeled into the development bank, stimulating private investment, even if the loans are given to supporters of a certain political ideology.

Conclusion

The debate continues as to whether foreign aid contributes to economic growth in recipient countries. However, it is important to consider each case individually with its own realities. While most of aid-growth literature has focused on cross-sectional or panel data analysis of aid recipient countries for a collective understanding of the impact of structural reform, macroeconomic environment, or local political structure on aid effectiveness, they fail to address unique features of the recipient economy as well as the unique relationship between the donor and the recipient. Especially de-facto state and patron relationships can have political considerations that make standard theories and the mainstream development assistance literature irrelevant.

Based on our econometric modeling, growth in the North Cyprus economy appears to have a negative association with the Turkish aid in the short run and no significant association in the long term. This may be the consequence of the timing of financial assistance. When assistance is received at times of large balance-of-payments deficits as a deficit-financing tool, it is likely to put out the fiscal fires rather than stimulate economic growth. At times of financial problems, the investment climate may also be unfavorable, thus limiting the growth potential of the aid coming in. The inability of aid to promote long-term growth is consistent with the literature. When aid is used ineffectively, it is not likely to promote growth.

Our ARDL model provides evidence for a statistically significant positive relationship when government expenditures are used as an explanatory variable for foreign aid. Higher government spending tends to attract more aid in the long-term, suggesting a "deficit financing" role for foreign aid rather than growth orientation. The same reasoning may apply to the long-term positive relationship between imports and foreign aid when imports are used as an independent variable. The higher the volume of imports, the higher the amount of aid, raising further suspicion to the deficit-financing property of financial aid both for domestic and trade deficits.

Our "Left" dummy variable points to a clear negative association between left governments and the volume of Turkish aid received by North Cyprus. This finding implies a punishing behavior from the donor's side when local elections in North Cyprus do not result in a "preferred" political structure.

The special relationship between North Cyprus and Turkey is one that requires knowledge of the area and the political dynamics between the two in order to understand its manifestations on local economic activity. Using standard aid-growth measurements without reference to this unique relationship can lead to an inaccurate analysis. The political and economic dependence of North Cyprus on Turkish government renders the former vulnerable to the political motivations and strategies of the latter. Based on our analysis, we can conclude that Turkish aid acts as a mere tool of keeping an inefficient local economy afloat with no intention of building a self-sufficient economic structure.

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61 Okan Veli Şafaklı and Hüseyin Özdeşer, "KKTC Ekonomisinin Genel Analizi", *Doğuş Üniversitesi Dergisi*, Vol. 1, No 3, 2002, p. 151-171.

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