

## A NOVEL APPROACH IN CALCULATING THE COSTS OF “ECONOMIC ISOLATION”

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### ABSTRACT

*Economic isolation in this study refers to restrictions on the transportation of people and goods; foreign trade and investment; and participation in the international community: Since the division of the island in 1974, Turkish Cypriots are living in almost full economic isolation in the North. To calculate the effect of the isolation has had on the economic development of the Turkish Cypriots, we introduce a novel approach. We compare the per capita incomes in the North and the South, and based on the per capita income differences we calculate the total costs of the economic isolation. Our calculations show that between 1977 and 2006, the lost income was \$25 billion. This corresponds to \$112 thousand per Turkish Cypriot living in the North.*

**Key Words:** *Isolation, Economic Development, Institutions, Cyprus*

### ÖZET

*Bu çalışmada ekonomik izolasyonla kastedilen insanların ve malların taşınması, dış ticaret ve yabancı yatırımlar ve uluslararası topluluğa katılma üzerinde olan kısıtlamalardır: 1974’de Kıbrıs’ın ikiye bölünmesinden bu yana Kıbrıslı Türkler adanın kuzeyinde nerde ise tam bir ekonomik izolasyon altında yaşamaktadırlar. Ekonomik izolasyonun Kıbrıslı Türklerin ekonomik gelişmesi üzerindeki etkilerini hesaplamak için bu çalışmada yeni bir yaklaşım ortaya konmuştur: Adanın kuzey ve güneyindeki kişi başına düşen gelirler karşılaştırmış ve kişi başına düşen gelir farklılıklarına dayanarak ekonomik izolasyonun toplam ekonomik etkisini hesaplanmıştır. Hesaplamalarımız 1977 ve 2006 yılları arasında 25 milyar dolarlık bir gelir kaybının olduğunu göstermektedir; bu da adanın kuzeyinde yaşayan her Kıbrıslı Türk’ün 112 bin dolarlık bir gelir kaybına uğradığı anlamına gelmektedir.*

**Anahtar Kelimeler:** *İzolasyon, Ekonomik Gelişme, Kurumlar, Kıbrıs*

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## 1. Introduction

The island of Cyprus is not only divided politically, but also economically. Following along the Green Line -the internal border that separates the North from the South- there are big differences in per capita income and living standards. (Ayres (2003), Demetriades et al. (2003), and World Bank (2006).) Since the division of Cyprus in 1974, there have been no significant changes in the relative ratios of land and labor between the North and the South. The population of Turkish Cypriots relative to the Greek Cypriot population has remained at a nearly constant ratio of 29.4%, varying from a low of 27.7% in 1996 to a high of 30.1% in 1998.<sup>1</sup> The ratio of land in the North compared to the land in the South is constant, measured at 0.5 (3,355km<sup>2</sup>/5,895km<sup>2</sup>).<sup>2</sup> Yet, the differences in per capita income and living standards are not unexpected outcomes. If both Cypriot communities possessed identical "higher-ordered principles of sound economic governance-property rights, market-oriented incentives, sound money, fiscal solvency,"<sup>3</sup> given these similar land/labor ratios and formal education parallels, we should expect to see that the economies of the North and South should have advanced along similar trends, or at least be of relatively similar character.<sup>4</sup> However, this is not the case: As a result of the division, Greek Cypriots living in the South and Turkish Cypriots living in the North have been on two different paths regarding their policies, incentives, and institutions and their interaction with the rest of the world.

After 1974, following a quick economic recovery and a rebuilding of the infrastructure, the Greek Cypriots living in the South benefited doubly from having an internationally recognized administration and membership in international

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<sup>1</sup> The source of these figures and other statistics: For population, GDP, and education in the North, we use TRNC State Planning Organization, "Economic and Social Indicators 2005." <<<http://www.devplan.org/Frameeng.html> >> (Accessed on October 30, 2007); For population in the South, we use The Republic of Cyprus Statistical Service, *National Accounts 1995 – 2003*; and CIA World Factbook, <https://www.cia.gov/library/publications/the-world-factbook/geos/cy.html> (Accessed on October 30, 2007); For GDP in the South, we use World Bank World Development Indicators CD-ROM 07, "Cyprus"; and for education in the South we use The Statistical Service of the Republic of Cyprus, "Population and Social Conditions." <[http://www.pio.gov.cy/mof/cystat/statistics.nsf/index\\_en/index\\_en?OpenDocument](http://www.pio.gov.cy/mof/cystat/statistics.nsf/index_en/index_en?OpenDocument)>> (Accessed on October 30, 2007).

<sup>2</sup> Source: CIA World FactBook. <https://www.cia.gov/library/publications/the-world-factbook/geos/cy.html> (Accessed on October 30, 2007.) Please note that the formal education of the Greek Cypriots and Turkish Cypriots are very similar.

<sup>3</sup> Rodrik (2007, p. 39).

<sup>4</sup> For the relationship between institutions and growth, see North (1990), Williamson (2000), Acemoglu et al. (2001), La Porta et al. (1999), and Tabellini (2005).

organizations. The EU accession process has reformed Greek Cypriot institutions and along with the technical expertise and advice of international institutions, such as the United Nations, World Bank, and the IMF, the South continues to modernize.

On April 24, 2004, less than ten days before the official date Cyprus was to join the European Union (EU), each Cypriot community voted on the UN-sponsored Annan plan for a new unified state, the United Cyprus Republic. The Annan plan called for Cyprus to enter the EU composed of two “constituent states”; one state in the North governed predominantly by the Turkish Cypriots, and one state in the South governed by the Greek Cypriots.<sup>5</sup> Although the Turkish Cypriots approved the Annan plan, the Greek Cypriots did not. As such, the proposed United Republic of Cyprus referendum failed and the existing Republic of Cyprus became an EU member on May 4, 2004. While politically divided, the entire island became a part of the EU. Despite members of the Turkish Cypriot community living in the North becoming citizens of the EU, the application of the *acquis communautaire* to the northern part of the island is suspended; Turkish Cypriots and Greek Cypriots have yet to come to an agreement on a comprehensive political solution.<sup>6</sup> Today, Greek Cypriots living in the South enjoy full membership in the EU. Having fulfilled monetary and public finance requirements as of January 1, 2008, Greek Cypriots began using the Euro as their currency. Meanwhile, Turkish Cypriots still live in almost full economic isolation in the North.<sup>7</sup>

In this article, we analyze the effect the “economic isolation” has had on the economic development of the Turkish Cypriots living in the North. “Economic isolation” in this context refers to restrictions on the transportation of people and goods; foreign trade and investment; and participation in the international community. We examine the effects of the “economic isolation” in terms of lost income.<sup>8</sup> To accomplish this, we first provide some evidence to support our claim

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<sup>5</sup> For the details of the Annan Plan for Cyprus, visit <http://www.hri.org/docs/annan/>, and for commentary on the referenda results, see Bryant (2004).

<sup>6</sup> Ugur (2003) and Noe and Watson (2005) analyze possible implications of EU membership for the North-South development gap, assuming that the country would join as a federal entity.

<sup>7</sup> To deal with this complex and problematic situation, the EU did two things: introduced legislation, known as the Protocol Number 10, and designed a financial aid program to help Turkish Cypriots living in North. (European Union, (2004). COUNCIL REGULATION (EC) No 866/2004 of 29.4.2004 on a regime under Article 2 of Protocol No 10 of the Act of Accession, Official Journal of the European Union L 161 of 30 April 2004, pp: 128-143.) For detailed analyses of the Green Line Regulations, see Gokcekus (2008).

<sup>8</sup> For a comprehensive study on the “effectiveness” of economic embargos, see Hufbauer et al. (2008).

that although not much has changed since 1977 regarding the relative abundance of the factors of production between the North and the South policies, incentives, institutions and interaction with the rest of the world and consequently composition and level of economic activities have.<sup>9</sup> Second, we compare the per capita incomes in the North and the South. Based on the per capita income differences, we calculate the total costs of the isolation on the Turkish Cypriots living in the North. Third, as an example of how isolations work, we calculate the additional transportation costs of trade in the North. Due to no direct shipping to the North, all foreign goods imported and exported have to come through seaports in Turkey. Finally, we present some concluding remarks.

## 2. From One to Two Economies

Since the division of Cyprus in 1974, the composition of sectors of production and the size of GDP in each part of the island vary substantially over time. A recent World Bank Report (2006, p.14) reports sectoral distribution of the economy in the North and the South are similar, but “sub-sectors of their economies differ significantly.” Comparatively, the South managed to allocate its resources from low-productivity activities to high-productivity activities by analyzing growth diagnostics, designing appropriate policies, setting incentives properly, and reforming existing institutions, while also establishing new ones to implement growth programs. These same structural changes did not take place in the North and, as such, could not stay on a similar development path. Furthermore, as part of embargos, since 1974, there is no direct shipping to the North. All goods must be shipped in and out via Turkey. Similarly, there are no direct flights to the North. Every flight to the North has to come through Turkey first. This transfer incurs some sort of layover and extends the amount of transit time. Obviously both of these restrictions have implications on costs of transportation and tourist arrivals, consequently on economic development.

The observed institutional and organizational divergence between the two parts of Cyprus could be demonstrated in three areas: (i) tourism memberships; (ii) international organizations; and (iii) financial considerations. The South has experienced a relative abundance of memberships in tourism organizations compared to the North. Beginning in 1975, the South joined the World Tourism Organization. This resulted in greater exposure to international tourism, and, in 1986, the South would adopt the No-Charter policy of tourism, further attracting

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<sup>9</sup> Factors of production in this context mean land, labor, and the quality of human capital.

more tourism along with the business of large tourism outfits. In 1993, the South would also join both the Mediterranean Cruise Association and European Sea Ports Organization, increasing maritime tourism. Finally, while not directly a tourism organization, the South, in conjunction with accession talks, liberalized air traffic in 2003. The North has not been privy to any of these memberships and there are no other significant tourism memberships to mention regarding the North.

Prior to the division of the island, the Republic of Cyprus began talks with the European Economic Community (EEC) in coordinating trade. These talks were centered on an Association Agreement between Cyprus and the then EEC countries. The end result of the Association Agreement yielded a customs union that would eventually phase out duties and tariffs between the South and Europe. Nevertheless, with the separation of the island, the South would be the only part of the island to continue to participate in this process.

As a trade mechanism, the first phase of this agreement was set to lower the tariffs on industrial and manufactured goods between Europe and the Republic of Cyprus. The South would ultimately meet the standards required in the Association Agreement of 1987 and continue moving through the process, gradually bringing its trade more in line with the European community. The alignment process simultaneously increased trade and lowered tariffs and duties. The process halted when the South entered into accession talks with the European Union, which ended in Cyprus joining the European Union in 2004. As a full member of the EU, the South benefits from a fully integrated economy with the EU. Politically, the process of accession was most likely lubricated due to the gradual alignment of trade and economic policies between the South and the EU member countries.

The North lacks the same institution building history of the South. Furthermore, there are no significant international organization memberships of note. However, a decision of the European Court of Justice bears mentioning here. Prior to 1994, Turkish Cypriot agricultural goods could be shipped to Europe as long as Republic of Cyprus seals were applied to the shipping containers and products. The decision of Case C-432/92 made this practice illegal, practically halting all the exports from the North to Europe.<sup>10</sup>

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<sup>10</sup> Due to the configuration of trade agreements, export statistics will be staggered. For example, in 1990 – 1993 exports to Europe represented 42.8% of the North's exports. In 1994 – 1997 these figures dropped to 29.4%, and in 2002 – 2005 these figures further fell to 15.6%. See <<<http://www.devplan.org/Frame-eng.html>. (Accessed on October 30, 2007.)

In addition to the Association Agreement, the South would also be party to four financial protocols spanning 1979 to 1998. These series of protocols were loans of funds aimed at building infrastructure, facilitating the integration of the South's markets with the European markets, and preparing the Cypriot economy for membership into the EU. In total, these loans are valued at 210 million Euros and represent a large influx of foreign capital into the Cypriot economy.<sup>11</sup> It is prudent to reiterate, that the funds were specifically earmarked for institution building and economy expansion. During the same period of time, among other reasons, due to the unstable nature of property rights and legal and political uncertainty surrounding the North, foreign direct investment was relatively scarce in the North. As mentioned in World Bank (2006, p. 16), "Though data on the total investment by Turkish businesses are not available, no other country undertakes FDI in the northern part of Cyprus due in part to the lack of assurance from the Government of Republic of Cyprus that no legal action will be taken against them ... non Turkish FDI in the northern part of Cyprus was nil."

As demonstrated earlier, the land and labor of the North and the South are static. The main forces driving change appear to be historical institutional differences experienced after the division of the island. The South experienced a greater level of integration financially and institutionally with Europe, while the North experienced little to no interaction with the surrounding regional and global community. As noted in World Bank (1994, pp. 2-3), the World Development Report of 1994, a 1% increase in infrastructure yields a corresponding 1% increase in GDP. Thus, the high level of economic integration, inflow of tourists, and loans aimed at structural improvement, embodies a huge injection of capital for both infrastructure and economic expansion in the South. This linkage most likely accounts for the divergence in per capita income between the two parts of the island over time. While the North did not experience malicious exclusion from the international community, its isolation still represents a detrimental effect on its economy.

As evidence to this argument, relaxing the movement of people along the Green Line in conjunction with the Annan Plan has had a tremendous impact on reducing uncertainty, resulting in impressive economic growth in the North. Furthermore, since the Annan Plan in 2003, economic growth overall in the North has skyrocketed. Even without the expansion of institutions and basic integration economically, the North's economy has assumed an impressive level of growth and

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<sup>11</sup> <http://cyprusembassy.net/home/index.php?module=article&id=1304>.

sector realignment similar to that of South Cyprus. Coming full circle, this fact begs the question of what if the North and the South had developed similarly.

### 3. Calculating Total Costs

An extensive literature on economic growth establishes a significant relationship between economic growth and (i) investment in physical and human capital; (ii) technological changes; (iii) research and development; (iv) economic policies, particularly foreign trade policies; (v) institutions; and (v) geography.<sup>12</sup> However, there is no consensus on how and why an economy assumes a particular growth path. As discussed by Williamson (2004) if you have the following ten things in place, the probability of achieving high economic growth is high: (i) fiscal discipline; (ii) reordering public expenditure priorities; (iii) tax reform; (iv) liberalizing interest rates; (v) a competitive exchange rate; (vi) trade liberalization; (vii) liberalization of inward foreign direct investment; (viii) privatization; (ix) deregulation; and (x) property rights.<sup>13</sup> Yet, the value of these characteristics is not static.<sup>14</sup>

We calculate the costs of isolation on the per capita income of the Turkish Cypriots living in the North. In doing so, we follow a three step procedure. In the first step, we derive potential per capita income for the Turkish Cypriots living in the North. To calculate the potentials we do not consider whether "... The Turkish Cypriot community has developed its own sets of policies and institutions to regulate the economic and social affairs of the population." (World Bank (2006), p. 9) Instead, we ask *what if* in the North there were identical policies, incentives, and institutions, as those in the South? Most importantly, we assume there was no isolation. Simply put, what if there were no differences between the North and the South? What if both Turkish Cypriots and Greek Cypriots were involved in economic activities within the same environment? In the second step, we calculate the difference between the potential and actual per capita incomes for each year. In the third step, we aggregate the annual losses and derive the total costs of isolation.

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<sup>12</sup> For an excellent, easily accessible reading on economic growth, see Helpman (2004).

<sup>13</sup> This list is also known as Washington Consensus. Since its inception in 1989, this list has been augmented.

<sup>14</sup> There are always cases where either a country is fulfilling all of the requirements but not growing, or a country without satisfying these conditions is growing fast. Considering these inconsistencies, there is an increasing acknowledgement that each country is unique and has its own development and economic growth dynamics. (Rodrik (2007, p. 5)).

Figure 1 shows the ratio of the per capita income in the North compared to the income in the South from 1977 until 2006. According to these statistics, in 1977 per capita income in the North was 67% of the income in the South.<sup>15</sup> Roughly translated, the average Turkish Cypriot's income during this period was two-thirds of the average Greek Cypriot's per capita income. In the late 1970s and early 1980s, the ratio steadily declined from 67% in 1977 to 30% in 1982. In the 1980s and 1990s, the ratio oscillated within a narrow range of 25% and 36%, settling around an average of 30.9%.<sup>16</sup> Since the 2000s, coinciding with the Annan plan negotiations, the opening of the Green Line in 2003, the Annan Plan referendums, and EU membership, this ratio has increased. In 2006, the ratio of 59% marks a significant improvement over previous years' performance.<sup>17</sup>

For our analysis, we set the 67% ratio in 1977 as the benchmark in our calculations. We ask the question, what if the per capita ratio stayed at this level between 1977 and 2007. Theoretically, if factors of production are similar and not changing and the economic environment within these two communities were identical, then the North should at least maintain the ratio of 67% of 1977. Table 1 includes the per capita income ratio in the first column. The second column shows the gap between the actual ratio and the benchmark ratio of 67%. The third column converts these differences into current US dollars. The fourth column presents the annual income losses in 2006 US dollars.<sup>18</sup> In calculating the annual losses over 30 years, we calculate \$25 billion in total losses. This corresponds to \$112 thousand per Turkish Cypriot living in the North.

One can argue that a 1 to 1 ratio is the appropriate benchmark to calculate the total costs of isolation, given that the 67% ratio of 1977 was an outcome of economic and political discrimination against Turkish Cypriots between the years of 1960 and 1974. If we set the benchmark at 100%, what happens to the total

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<sup>15</sup> The time series analysis is capped at 1977 due to data limitations.

<sup>16</sup> Based on our regression estimates, during the period 1981-2002, the slope of the trend-line was functionally no different than zero. As such, there were no systematic fluctuations around the average ratio.

<sup>17</sup> It is interesting to note the big difference that expectations that uncertainty will diminish makes, particularly regarding property rights.

<sup>18</sup> In calculating the present value, let's assume that there is an account and at the end of each year we put that year's lost income into this account. The account has a 3.5% interest rate attached to it. So for instance, \$100 in 1977 after 30 years of sitting in our account and earning 3.5% interest per year becomes \$280.68 dollars in 2006. ( $\$280.68 = \$100.00(1+0.035)^{(2006-1977)}$ ) Obviously, there is an argument to be made that 3.5% is overly conservative; for instance, in the 1970's, high inflation made for higher interest rates that are not accounted for in this study.

losses? The last two columns in Table 2 report the annual income losses in current dollars and in 2006 dollars when we set the benchmark at 100%. Under this scenario, we calculate \$ 51.6 billion in total losses. This corresponds to \$232 thousand per Turkish Cypriot living in the North.

#### 4. Additional Shipping Costs

There is no direct shipping to the North. Currently, all goods must be shipped in and out via Turkey. How do these shipping restrictions affect transportation costs? Estimating additional transportation costs will depend on (i) volume and composition in terms of destination and origin of the shipments; (ii) number of containers; and (iii) additional costs per container. In this section, first, we present the trade statistics for the North. Second, we derive the container equivalency of annual trade.<sup>19</sup> Third, we calculate the number of containers used in trade between the North and countries other than Turkey, by multiplying the percentage of trade the North had with other countries with total number of containers. Finally, we derive the additional transportation costs per year, per capita, and cumulative costs for the years between 1977 and 2005.

Berhan and Jenkins (2006), based on surveys conducted with shipping professionals, provide the average value of individual containers passing through the seaports in the North for 2004. Berhan and Jenkins also provide the additional cost per container due to passing through Mersin port. According to Berhan and Jenkins, the average value of each container in 2004 US dollars is \$10,489 and the additional cost per container is \$650.<sup>20</sup> Using these figures and the foreign trade statistics for the North, presented in Table 2, we calculate the total cost of additional transportation costs for the 29 year period between 1977 and 2005 as \$421 million. As presented in Table 3, these costs represent a significant drag on the economy. On average, the additional costs represent on average about 3.4% of the GDP. Per each Turkish Cypriot, this costs an additional \$82 per year, (i.e., \$1,910 in 29 years between 1977 and 2005).

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<sup>19</sup> Container equivalency in this case means the value of trade divided by the value of each container. Consequently, this should provide an estimation of the number of containers shipped in a given year.

<sup>20</sup> Because the foreign trade is in current US dollars, and average value of a container is available only for 2004, we use British producer price index to determine the each container's value in current prices for different years. For the producer price index, see <http://www.statistics.gov.uk/statbase/TSDdownload2.asp> (Accessed on October 31, 2007.)

Since 2003, the North's economy has been growing by double digits in terms of GDP. Subsequently, the extra shipping costs are becoming less significant as time progresses. However, this is somewhat misleading. For a Turkish Cypriot living in the North, as Figure 2 shows, there is an increasing burden of additional transportation costs. For instance, compared to \$43 in 2002, a Turkish Cypriot was paying \$61 in 2003; \$106 in 2004; and \$129 in 2005. Ironically, following the Annan plan referendum, the increased economic activity and the parallel increase in trade volume have increased the burden of additional transportation costs.

## 5. Concluding Remarks

We calculated the total cost of the isolation for Turkish Cypriots living in the North. To accomplish this, we followed a three step procedure. In the first step, we derived the potential per capita income losses. In calculating the potential losses we asked, what if in the North there were identical policies, incentives, and institutions, as those in the South? In other words, what if both Turkish Cypriots and Greek Cypriots were involved in economic activities within the same environment? In the second step, we calculated the difference between the potential and actual per capita annual income and, by taking annual population statistics into account, converted the per capita figures into annual total income losses. In the third step, we aggregated the annual losses and derived the total cost of the isolation. We calculated that the annual losses over 30 years are \$ 25 billion (in 2006 US dollars) in total losses. This translates into \$112 thousand lost per Turkish Cypriot living in the North.

We also calculated the additional transportation costs of trade in the North. Due to no direct shipping to the North, all foreign goods imported and exported have to come through seaports in Turkey. We calculated the total cost of additional transportation costs for the 29 year period between 1977 and 2005 at \$421 million. This additional cost corresponds to \$1,910 lost per Turkish Cypriot living in the North. Following the Annan plan referendum, the increased economic activity, and the parallel increase in foreign trade volume, has made the burden of additional transportation costs higher. For instance, compared to \$43 in 2002, a Turkish Cypriot was paying an additional \$61 in 2003; \$106 in 2004; and \$129 in 2005.

Our study suggests that there is some good news and some bad news for the North. The first piece of bad news is that the isolation has incurred a heavy cost on the Turkish Cypriots. However, the good news is that since 2003, there has been a spectacular economic growth rate in the North. Due to the Annan Plan, which

reduced uncertainty regarding property rights and other key parameters, this explosive growth is a positive indicator that the North's economy *can* grow swiftly. The Annan Plan and EU membership criteria have been accepted as important frameworks in establishing a road map for a comprehensive solution in the future.

Regardless of the recent economic growth and reduced uncertainty, the institutions and economic environment of the North have not changed. Furthermore, there have been no changes to the restrictions on the transportation of people and goods; foreign trade and investment; and participation in the international community. Despite the incredible growth in the North, the isolation still looms menacingly over the Turkish Cypriots. This leads to a second piece of bad news for the North which is not directly analyzed in this study: by being excluded from international financial system and international organizations, the North is not included in economic reports and statistics. Simply, by having no access to these institutions the North is cut off from foreign investment. Understandably, investors are scared of a *lack* of information because investment decisions are made for the long term. When investors are deciding what to invest in today, they are comforted by possessing economic information that assists in modeling future scenarios an economy may follow. Without this information, investors become unlikely to invest. As the World Development Report of 2005 (page 115) indicates, "...inadequacies in finance and infrastructure create barriers to opportunities and increase costs for rural micro-entrepreneurs as well as multinational enterprises."

Further research needs to be conducted to better understand (i) evolution and divergence of institutions in the North and South; and the effect of varying divergences on specific sectors such as construction, manufacturing, transportation and tourism; and (iii) size and patterns of investment, in particular foreign direct investment in the North. Doing so may help two communities in Cyprus and the officials from the EU to better manage the transition to a re-unified Cyprus as a European country.

**BIBLIOGRAPHY**

Acemoglu, D., Johnson, S., and J.A. Robinson (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review* (91), 1369–1401.

Ayres, R. (2003). The economic costs of separation: The North-South development gap in Cyprus. *Ekonomia* 6(1), 39-52.

Berhan B. A. and G. P. Jenkins. (2006). The self imposed embargo: Customs related transactions costs in North Cyprus. Available at SSRN: <http://ssrn.com/abstract=898626>

Bryant, R. (2004). “An ironic result in Cyprus”, *Middle East Report Online*, <http://www.merip.org/mero/mero051204.html>

Demetriades, P., Fethi, M. D., and S. Fethi (2003). Convergence and the Cypriot economies: Time series theory and evidence, 1977-2000. *Ekonomia* 6(1), 19-38.

The Embassy of the Republic of Cyprus in Washington D.C. (2003). “Embassy News: Cyprus and the EU – Financial.” <http://cyprusembassy.net/home/index.php?module=article&id=1304> (Accessed on October 30, 2007)

European Union. (2004). Council Regulation (EC) No 866/2004 of 29.4.2004 on a regime under Article 2 of Protocol No 10 of the Act of Accession, *Official Journal of the European Union*, L 161 of 30 April 2004, 128-143.

Gokcekus O. (2008). “Green-line regulation and its economic implications in Cyprus.” *Armenian Journal of Public Policy*. Proceedings, pp. 175-193, February 2008.

Helpman, E. (2004). *The Mystery of Economic Growth*. Harvard University Press.

Hufbauer, G. C., Schott, J. J., and K. A. Elliott (2008). *Economic Sanctions Reconsidered: History and Current Policy* (3rd Edition) Washington, DC: Paterson Institute for International Economics.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and R.W. Vishny (1999). The quality of government. *Journal of Law, Economics and Organization* 15 (1), 222–279.

Noe, W, and M. Watson (2005). Convergence and reunification in Cyprus: Scope for a virtuous cycle. *ECFIN Country Focus* 2(3): 1-7.

Rodrik, D. (2007). *One Economics Many Recipes: Globalization, Institutions, and Growth*. Princeton University Press.

Tabellini, G. (2005). Culture and Institutions: Economic Development in the Regions of Europe. CESifo Working Paper, p. 1492. (Accessed on November 8, 2007.)

Ugur, M. (2003). Mind the gap: Unification, EU membership and regional disparity in Cyprus. *Ekonomia* 6(1), 53-71.

United Nations (2004). "The Annan Plan for Cyprus." <http://www.hri.org/docs/annan/> (Accessed on October 30, 2007)

Williamson, J. (2004). "A short history of the Washington Consensus." <http://www.iie.com/publications/papers/williamson0904-2.pdf> (Accessed on October 2, 2007.)

Williamson, O.E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature* XXXVIII, 595–613.

World Bank (1994). *World Development Report 1994: Infrastructure for development*.

<http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1994/06/01/0000092653970716142907/Rendered/PDF/multi0page.pdf> (Accessed on November 8, 2007.)

World Bank (2005). *World Development Report 2005: A Better Investment Climate for Everyone*. <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2005/0,,contentMDK:20259914~menuPK:477673~pagePK:64167689~piPK:64167673~theSitePK:477665,00.html> (Accessed on December 8, 2007.)

World Bank (2006). *Feasibility Studies for Economic Development Projects: Sustainability and Sources of Economic Growth in the Northern Cyprus Volume 1: Economic Assessment*. <http://www.kibrisab.org/wbrep1.pdf> (Accessed on October 2, 2007.)

**Table 1** The *total costs* of isolation on the Turkish Cypriots living in the North: 1977 – 2006

Year	TC/GC per capita income	Per capita cost of isolation	Cost of Isolation	Cost of Isolation	Cost of Isolation	Cost of Isolation
			(in current million U.S. \$)	(in 2006 US \$ present value)	(in current million U.S. \$)	(in 2006 US \$ present value)
		Benchmark: 67%	Benchmark: 67%	Benchmark: 67%	Benchmark: 100%	Benchmark: 100%
1977	67%	0%	0	0	102	278
1978	58%	10%	36	93	158	414
1979	46%	21%	103	261	266	674
1980	36%	31%	197	481	407	995
1981	32%	35%	243	575	468	1,106
1982	30%	37%	256	584	483	1,102
1983	31%	36%	237	522	452	997
1984	29%	38%	261	557	488	1,039
1985	34%	34%	241	497	476	981
1986	35%	33%	269	536	541	1,076
1987	31%	36%	381	733	730	1,403
1988	25%	42%	568	1,055	1,013	1,882
1989	29%	39%	573	1,028	1,061	1,904
1990	36%	31%	506	878	1,043	1,809
1991	32%	35%	591	989	1,144	1,917
1992	30%	37%	738	1,194	1,385	2,241
1993	32%	36%	707	1,106	1,359	2,125
1994	26%	41%	877	1,325	1,576	2,382
1995	32%	35%	825	1,205	1,598	2,334
1996	31%	36%	899	1,268	1,717	2,422
1997	28%	39%	1,085	1,478	1,986	2,707
1998	31%	37%	1,064	1,401	2,020	2,659
1999	35%	32%	870	1,107	1,767	2,248
2000	37%	30%	823	1,012	1,734	2,132
2001	33%	34%	959	1,139	1,873	2,224
2002	33%	34%	957	1,098	1,885	2,163
2003	39%	28%	913	1,013	1,988	2,204
2004	44%	23%	934	1,001	2,254	2,414
2005	55%	12%	503	520	1,886	1,952
2006	59%	8%	342	341	1,793	1,793
			<b>Total:</b>	<b>\$ 24,998 million</b>	<b>\$ 51,576 million</b>	
			<b>Per capita:</b>	<b>\$ 112,334</b>	<b>\$ 231,768</b>	

**Table 2** Foreign trade statistics: 1977 – 2005

Year	Import (in million US\$)	Exports (in million US\$)	Total foreign trade (imports + exports) (in million US\$)	Total foreign trade (container equivalent)	Percent of foreign trade with countries other than Turkey	Number of containers from countries other than Turkey
1977	82	24	106	32,750	65%	21,153
1978	84	31	115	32,703	66%	21,527
1979	91	36	127	32,124	63%	20,300
1980	94	45	139	30,411	66%	19,989
1981	104	37	141	27,907	64%	17,754
1982	120	40	159	29,050	64%	18,699
1983	145	41	186	31,846	61%	19,552
1984	136	39	175	28,314	60%	17,011
1985	143	46	189	28,820	63%	18,087
1986	153	52	205	30,815	62%	19,131
1987	221	55	276	40,063	63%	25,234
1988	218	52	271	37,863	60%	22,718
1989	263	55	318	42,486	62%	26,211
1990	382	66	447	56,208	64%	35,913
1991	301	53	354	42,211	57%	24,269
1992	371	55	426	49,307	56%	27,570
1993	364	55	418	46,627	61%	28,418
1994	287	53	340	36,934	59%	21,758
1995	366	67	433	45,242	50%	22,799
1996	318	71	389	39,595	46%	18,204
1997	357	58	414	41,794	45%	18,683
1998	431	53	484	48,815	42%	20,720
1999	413	52	465	46,728	39%	18,165
2000	425	50	475	47,036	38%	17,961
2001	272	35	307	30,433	39%	11,941
2002	310	45	355	35,201	40%	14,051
2003	478	51	529	51,639	39%	20,163
2004	853	62	915	87,244	41%	35,656
2005	1,256	68	1324	122,760	36%	43,776
<b>Total:</b>				<b>1,252,923</b>		<b>647,412</b>

**Table 3 The additional shipping costs: 1977 – 2005**

Year	Annual additional shipping burden (in 2004 million U.S. \$)	Annual additional shipping burden (as % of the GDP)	Annual additional shipping burden (per capita in 2004 U.S. \$)
1977	14	6.6%	95
1978	14	6.5%	95
1979	13	5.7%	89
1980	13	5.6%	87
1981	12	5.3%	76
1982	12	5.8%	79
1983	13	6.3%	82
1984	11	5.5%	70
1985	12	4.9%	73
1986	12	4.4%	76
1987	16	4.9%	99
1988	15	4.3%	88
1989	17	4.0%	101
1990	23	3.9%	136
1991	16	2.9%	91
1992	18	3.1%	102
1993	18	3.0%	104
1994	14	2.6%	79
1995	15	2.0%	82
1996	12	1.5%	65
1997	12	1.6%	60
1998	13	1.5%	66
1999	12	1.2%	57
2000	12	1.1%	56
2001	8	0.9%	37
2002	9	1.0%	43
2003	13	1.0%	61
2004	23	1.3%	106
2005	28	1.2%	129
<b>Average (per year):</b>	<b>\$15 million</b>	<b>3.4%</b>	<b>\$ 82</b>
<b>Total:</b>	<b>\$421million</b>		
<b>Per capita:</b>	<b>\$1,910</b>		

Figure 1 Per capita income in the North as percentage of the per capita income in the South: 1977-2006

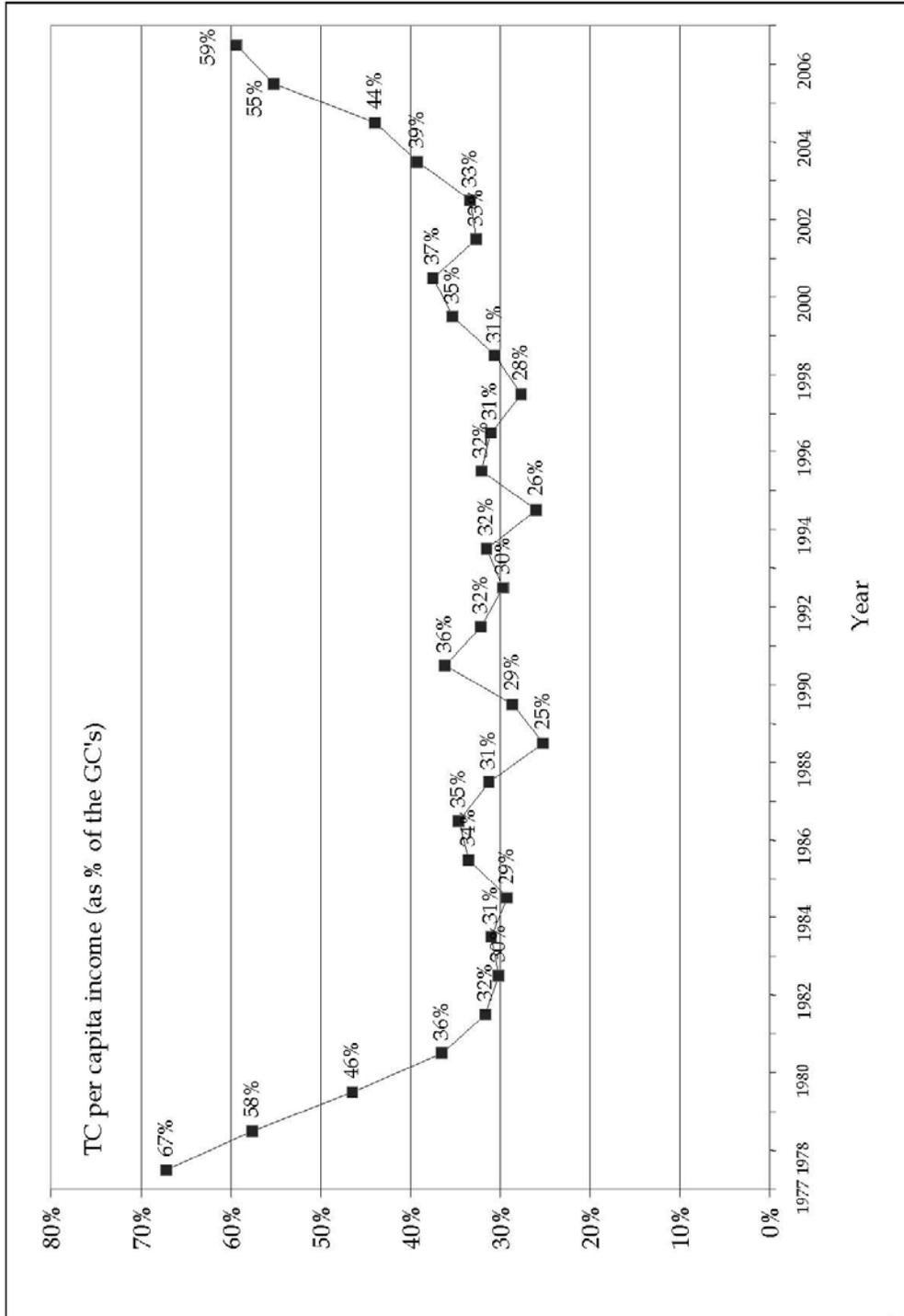


Figure 2 Annual additional transportation costs per Turkish Cypriot living in the North: 2002 – 2005

