

# The day after II

## Reconstructing a reunited Cyprus

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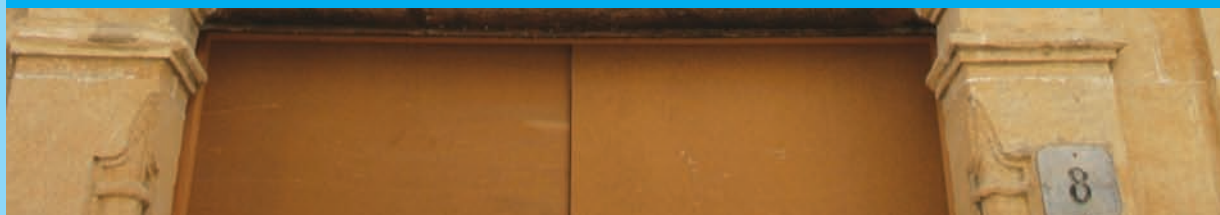


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# The day after II

*Reconstructing a reunited Cyprus*

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By supporting a second project by “the three ladies”, the sponsors are addressing more than one objective. While contributing to the presentation of hard figures concerning the financial aspects of the possible reunification of Cyprus, they are also supporting multicultural cooperation between professionals, at the same time as illustrating how a positive approach towards gender equality in Cyprus can support the settlement process.

Our thanks also go to all the statisticians in both parts of the island who have made possible the presentation of detailed statistical data, as well as to Antonis Loizou and Associates for certain construction-related data.

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We hope that the explicit information that our work provides may serve as a tool in facilitating the dialogue between the two leaders in their search for a reunited, peaceful and prosperous future on the island.

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## EXECUTIVE SUMMARY

**T**his report does not aim to propose any specific solution to the Cyprus problem. Rather, by examining a range of scenarios, it attempts to answer some of the key questions uppermost in Cypriots' minds: "How much will the solution cost? How can it be financed? What will be the impact on jobs and growth?"

In order to answer these questions, we first examine four different scenarios to estimate the amount of new housing, renovation and infrastructure investment by the public and private sectors that will arise as a result of a settlement. We focus our examination *on investment that will be necessary to implement a solution*, rather than on other, longer-term development goals. We conclude that the amount of new housing, renovation and infrastructure investment by both the public and private sector that will be made necessary as a result of the settlement would range from €6.3 billion to €8.6 billion depending on which scenario is taken, or an average of €7.2 billion over five years. Spending by the public sector would amount to €4.3 billion, while spending by the private sector would amount to €2.9 billion.

For the purposes of our financing forecast, we also make a rough estimate of property compensation, although in practice this will depend greatly on the details of the property settlement. If the government were to assume the cost of interest payments (rather than the property agency that issues and sells title deeds), this could amount to interest payments of €900 million per year at an assumed interest rate of 6% per year.

In order to assess whether this kind of expenditure is affordable, we study a wide variety of domestic and international sources of financing. We find that EU non-repayable grants could amount to more than €600 million if Cyprus were to be redefined as two or more statistical regions for the purposes of EU financing and that this could significantly reduce total financing costs. For other sources of income, we pay heed to the probably still difficult financial environment by 2010, and make cautious forecasts for Cyprus's capacity to borrow, based on historical borrowing trends. Interestingly, we find that the institutions with the greatest lending capacity could be the local Cypriot commercial banks, which remain highly capitalized. For the purposes of our forecast, we have assumed that the regular funds from Turkey currently flowing to northern Cyprus will continue to be spent on longer-term development projects, rather than on the immediate needs of a solution.

However, even with a substantial input from the domestic and international markets, we still find a funding shortfall of just over €1 billion in the first five years. According to our estimates, therefore, a reunited Cyprus would require €205 million per year from international bilateral donors for the first five years after a settlement, in addition to that which could be financed from domestic and international markets.



Investing in the day after should not only be seen as a cost. In our first *day after* report,<sup>1</sup> we highlighted some of the main commercial opportunities that could arise out of the reunification of Cyprus. In this second report, we go further, by extending our analysis to the whole economy. We find that the construction boom that a solution would entail, the boost to manufacturing of producing construction materials, together with the impact of a settlement on tourism, transport, higher education, and financial and business services, would raise the real GDP growth rate by 3 percentage points in the first five years. We estimate that this would create more than 33,000 jobs in the first five years. The positive economic benefits of the reconstruction boom will be considerable, with very long-lasting effects that will benefit all Cypriots.

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<sup>1</sup> *The day after: commercial opportunities following a solution to the Cyprus problem*, by Fiona Mullen, Özlem Oğuz and Praxoula Antoniadou-Kyriacou, PRIO Cyprus Centre, March 2008.

<b>DAY AFTER II: RECONSTRUCTING A UNITED CYPRUS: SUMMARY</b>						
€ million unless otherwise indicated						
	2010	2011	2012	2013	2014	Total
<b>How much will it cost? (Public- and private-sector expenditure)</b>						
Public-sector new housing (average of four scenarios)	431	431	431	431	431	2,155
Public-sector infrastructure	435	435	435	435	435	2,175
<b>Subtotal: investment by the public sector (a)</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>4,330</b>
Private-sector renovation (average of four scenarios)	445	445	445	445	445	2,226
Private-sector infrastructure	136	136	136	136	136	681
<b>Subtotal: investment by the private sector</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>2,907</b>
<b>Total public- and private-sector investment</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>7,236</b>
<b>How can it be financed? (Public-sector financing)</b>						
1. Government reconstruction and re-housing costs (b)	1,000	1,000	1,000	1,000	1,000	5,000
2. EU grants (c)	138	138	138	138	138	690
<b>3. Borrowing requirement after grants (1-2)</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>4,310</b>
4. Plus interest costs (5% per year)	43	43	43	43	43	216
5. Plus interest payments on property bonds (6% pa)	900	900	900	900	900	4,500
<b>6. Total borrowing requirement (3+4+5)</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>9,026</b>
7. EIB and CEB	400	400	400	400	400	2,000
8. Syndicated loans	50	50	50	50	50	250
9. Greek and Turkish banks	250	250	250	250	250	1,250
10. Local banks	500	500	500	500	500	2,500
11. International bond issues	250	250	250	250	250	1,250
<b>12. Total possible borrowing (7+8+9+10+11)</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>7,250</b>
13. Partnerships with the private sector	150	150	150	150	150	750
<b>14. Total possible financing (12+13)</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>8,000</b>
15. Shortfall (6-14)	205	205	205	205	205	1,026
<b>16. Bilateral assistance needed (15)</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>1,026</b>
<b>What will be the impact on jobs and growth?</b>						
Real GDP growth (%)	9.3	5.6	5.4	5.7	5.9	-
New jobs created each year (total number)	13,873	4,373	4,130	5,049	6,177	33,602

(a) Excluding consultants' fees at 15%. (b) Including consultants' fees at 15%.

(c) If Cyprus is redefined for funding purposes as at least two statistical regions.

Source: Authors' estimates.

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## Chapter 1

# INTRODUCTION AND APPROACH TO RESEARCH

The aim of our research is to identify housing and other infrastructure investment that will be made necessary as a result of a settlement of the Cyprus problem, to consider sources of financing and finally to examine the impact of these and other factors on economic growth (gross domestic product, or GDP). We shall focus both on public-sector investment in new housing and infrastructure, as well as private-sector investment for returning refugees in renovating their old homes.

Our analysis includes questions such as:

- On the assumption that a settlement will include the passing of territory that is currently under Turkish Cypriot control to Greek Cypriot control (“territorial adjustment”), how many people will need to be re-housed?
- On the assumption that, in the areas not subject to territorial adjustment, the exercise of property rights by some will result in the re-location of others, how many people will need to be re-housed?
- What is the current cost of building or renovating a dwelling in Cyprus and therefore how much will each scenario cost in terms of housing and renovation?
- What other costs will be involved (e.g., supply of electricity, gas and water)?
- On the assumption that the closed town of Varosha is handed over to civilian control, what will be the main infrastructure requirements?
- With respect to financing: what are the likely main sources of financing for the above-mentioned expenditure and will it be enough?
- Finally, what will be the impact of such spending on economic growth and employment?

### Four different scenarios

In order to avoid making assumptions about the specific details of a solution, such as territorial adjustment (areas to be returned to Greek Cypriot control) or about the number of people affected by the property provisions of a settlement, we shall examine four distinct scenarios based on different variables. The scenarios will include two maximum scenarios.

Under the first maximum scenario, we calculate the cost of restitution and resettlement on the basis of the assumption that all Greek Cypriot refugees (using 1974 population numbers) want to return to their original homes in either the Greek Cypriot or Turkish Cypriot constituent

state and that all Turkish Cypriots currently residing in Greek Cypriot properties north of the Green Line want to remain or resettle in the same area as they currently live. This scenario implies the building of new housing for either returning Greek Cypriots or resettling Turkish Cypriots and the restoration or renovation of old housing.

Under the second maximum scenario, all Turkish Cypriot refugees want to return to their original homes in the Greek Cypriot constituent state and all Greek Cypriot refugees currently residing in Turkish Cypriot homes south of the Green Line want to remain or resettle in the same area as currently. In sum, in this scenario, the number of returning Greek Cypriot refugees is reduced by the number of Greek Cypriot refugees who are currently residing in Turkish Cypriot homes.

In our third scenario, we take a slightly simplified form of the third version of the Annan Plan (Annan III). We make no adjustment to the areas subject to territorial adjustment but we assume that exactly 10% of residences in either constituent state are restituted to original owners. In our fourth scenario we similarly take an adjusted version of the fifth version of the Annan Plan (Annan V). We make no adjustment to the areas subject to territorial adjustment but we assume that outside these areas exactly one-third of residences are restituted. We have taken the decision to use adjusted forms of both plans because, after much investigation, we realize that there is still much confusion and difference of opinion about exactly what the property provisions of Annan III and Annan V would mean in practice.

### **Types of investment included**

In our study, we distinguish between public-sector and private-sector financing and we include only the types of investment that are considered necessary for the implementation of the agreed solution, such as:

- New housing in areas subject to territorial adjustment and areas of restitution.
- Restoration of existing housing in areas of territorial adjustment and areas of restitution.
- Accompanying basic infrastructure such as supply of electricity, water, telecommunications, construction of sewerage systems and roads.
- Private-sector investment in restoration, particularly in Varosha.
- We also make very preliminary estimates of the cost of settling the property issue, while emphasizing that a more accurate assessment would require a separate study and of course require a better knowledge of the likely details of the property settlement.

We do not include general infrastructure projects intended to promote the long-term economic development of either constituent state or of the country as a whole. We acknowledge that these could be included in the first “5-year development plan” of the reunited country but they are different in nature from the costs required to implement the solution. For that reason, they should not burden the estimates of the level of investment that the implementation of a solution would necessitate.

## Financing

In our considerations with respect to financing we shall make the following assumptions.

- Basic infrastructure projects and the re-housing of Turkish Cypriots or Greek Cypriots who must be re-located but want to remain in the area close to their current residence will be financed by the public sector.
- New housing or renovation/restoration of existing housing units by Greek Cypriot or Turkish Cypriot refugees returning to their homes will be financed privately, probably under generous borrowing terms to be financed by the public sector (i.e., subsidization of interest payments).

Using historical trends, we shall examine Cyprus's capacity to finance the expenditure which we estimate. We shall study several sources of financing: grants from the EU, borrowing from official lenders such as the European Investment Bank (EIB), syndicated loans, borrowing from Greek, Turkish or Cypriot banks, international bond issues and public-private partnerships (PPPs). By making estimates for each source of financing, we shall be able to ascertain whether Cyprus can fund the settlement on its own, or whether it will need bilateral international assistance.

A specific suggestion we shall examine is whether bonds can be liquidated as a result of the trading in the secondary market of property bonds that may be issued to refugees whose property is not restituted. These funds could be reabsorbed through the issue of "reconstruction bonds" by the government (federal or constituent state).

Having estimated the major costs of a settlement and sources of financing, we shall close by estimating the likely impact on economic growth and new jobs of such expenditure. We shall do this by using housing and infrastructure figures estimated in the earlier part of the report, as well as forecasts made in our first *day after* report.

## Chapter 2

# BASIC ASSUMPTIONS

### Displaced population estimates

For the purposes of the four scenarios outlined in Chapter 3, we have made population estimates for displaced persons based on official sources. Greek Cypriot sources (see Figure 1) indicate that the number of displaced Greek Cypriots in 1974 was 162,000, and that they constituted 70% of the population of the northern part of Cyprus and one-quarter of the total population of the island.<sup>2</sup> Based on these sources, we estimate the number of displaced Turkish Cypriots in 1974 at 48,078.<sup>3</sup> We shall therefore use the numbers in Figure 1 as a basis for our estimates. See also Appendix tables 1 and 2.

**Figure 1: Displaced population estimates**

<b>DISPLACED POPULATION ESTIMATES</b>	
<b>Population in the north in 1974:</b>	
Total number of displaced Greek Cypriots in 1974 (a)	162,000
Constituting 70% of the population of the north (a)	
i.e. Population of north in 1974 is $162,000/0.7$	231,429
i.e. Population of Turkish Cypriots in north in 1974 is $(231,429-162,000)$	69,429
<b>Total population of Cyprus in 1974:</b>	
1st estimate: about $162,000 \times 4$ (a)	648,000
2nd estimate: $631,778 \times 1.017$ (b)	642,518
<b>Hence:</b>	
Taking total population in 1974 to have been (b)	642,500
Total population in the north to have been (a)	231,500
Displaced Greek Cypriots in 1974 to have been (a)	162,000
Turkish Cypriot population in the north in 1974 (a)	69,500
<b>Also:</b>	
Since in 1960 TC comprised 18.3 % of total population (c)	
And since total population in 1974 was 642,500 (b)	
Then total population of TC in 1974 was $642,500 \times 0.183$	117,578
Turkish Cypriots displaced after 1974 was $(117,578-69,500)$	48,078

(a) Source: Republic of Cyprus Press and Information Office website.

(b) Controlling for the fact that total population of Cyprus in 1973 as recorded by the Department of Statistics in 1973 census was 631,778 and the maximum average growth rate in the 20th century in Cyprus was 1.7% (Statistical Service, Demographic Report, 2006, Table 1).

(c) Statistical Service, Demographic Report, Table 6: most recent data refer only to 1960.

Sources: Published information from official sources.

<sup>2</sup> Republic of Cyprus Press and Information Office, Cyprus Problem, Aspects of the Cyprus Problem, Refugees, <http://www.cyprus.gov.cy/moi/pio>.

<sup>3</sup> The total number of displaced Turkish Cypriots from the previous period 1963-74 is estimated at 25,000, of which 1,300 had returned home by 1970: Gürel and Özersay (2006) citing Patrick (1976).

## Construction costs

Based on previous plans for a settlement over the decades, we assume that a settlement of the Cyprus problem will involve the building of a certain amount of new housing. This will come about as a by-product of refugees returning either to their original homes, and thereby displacing those currently living there, or because the returning refugee is housed in an area close to his or her original home. The amount of housing required and the cost of construction will depend on the different scenarios in each case. By calculating the unit cost of each new dwelling, we can calculate the new housing cost for each for the four scenarios. We shall also calculate the costs of renovation.

### Basis of calculation

We can estimate the cost of building a new dwelling using currently available data. We have been cautious and assumed that, regardless of where the housing is built, the cost of building will probably quickly converge upwards to levels currently prevailing in the southern part of the island. We have therefore made estimates of the costs of construction per square metre on the basis of data obtained from publications of the Statistical Service,<sup>4</sup> interviews with market participants and a special survey conducted on the topic (Index of the Property Market) by Antonis Loizou & Associates and published in *Phileleftheros* newspaper in June 2008.<sup>5</sup>

Data produced by the Statistical Service indicate an average cost per square metre of £447 (Cyprus pounds) in 2006 for the construction of houses. Adjusting this for the recorded increase in output prices in the construction sector (for buildings) in 2007 (5.2%) and 2008 (6%), leads to an average cost of around £500 per square metre. These figures compare with an estimate of £550 per square metre for medium-level quality construction, given by the abovementioned newspaper survey for costs in 2007. The same survey gave £720 per square metre for higher quality construction and £1,000 for top quality construction. Interviews with consulting engineers indicate that construction costs (at contractor cost) per square metre in 2008 were about €1,280 (£750) for the construction of houses and around €1,110 (£650) for the construction of flats.

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<sup>4</sup> *Construction and Housing Statistics 2006*, Index of Output Prices in Construction, 2001-2008.

<sup>5</sup> An updated version of the survey can be found on the website of Antonis Loizou & Associates: [www.aloizou.com.cy](http://www.aloizou.com.cy)

**Figure 2: Growth in construction costs**

<b>GROWTH IN CONSTRUCTION COSTS (a)</b>				
<b>C£ per square metre</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Houses				
Medium quality	£408	£462	£500	£550
Higher quality			£650	£720
Superior quality			£800	£1,000
Flats	£379	£422	£500	£550
Offices	£400	£447	£550	£600
Shops	£400	£447	£450	£480

(a) Comprising 52% cost of materials; 48% labour costs.

Note: Values are higher than those of the Statistical Service which uses historical costs.

Source: Antonis Loizou & Associates, Cyprus Real Estate Property Index.

Since the Statistical Service uses historical rather than current costs we have adopted in this study the costs per square metre of constructing dwellings as estimated by Antonis Loizou in 2007, which we have adjusted for the increase of construction output prices in 2008. *We therefore assume that the cost of building a new dwelling of medium quality is €1,000 per square metre.*

**Figure 3: Construction cost comparisons**

<b>CONSTRUCTION COST COMPARISONS (a)</b>			
	<b>2006</b>	<b>2007</b>	<b>2008</b>
	<b>£ per sq m</b>	<b>£ per sq m</b>	<b>£ per sq m</b>
<b>Construction and housing statistics</b>			
Statistical Service	£447	£470	£499
Market Participants: houses			£750
Market Participants: flats			£650
<b>Phileleftheros/A. Loizou survey</b>			
Medium quality	£500	£550	£583
Higher quality	£650	£720	£763
Top quality	£800	£1,000	£1,060
Project assumption for medium-quality construction			£585
<b>Project assumption in euros</b>			<b>€1,000</b>

(a) At contractor cost. Authors' estimates are in italics.

Sources: Statistical Service, market participants, Antonis Loizou & Associates.

It should of course be remembered that all the above figures remain exclusive of land value, VAT or consultants' fees (amounting to around 15%) or any profit margin of developers, i.e., they are prices at contractor cost. In Chapter 7 on financing, we shall add a margin for consultancy and other fees so that the true cost to the purchaser is known.



### Housing assumed to be built on state land

We also assume for the purposes of our study that any new housing built is constructed on state land. Previous studies have estimated that, after territorial adjustment, some 489,000 donums (678.7 million square metres) of state land would be located in the Turkish Cypriot constituent state.<sup>6</sup> We therefore believe that enough state land will be available for new housing purposes.

**Figure 4: Output prices in construction**

OUTPUT PRICES IN CONSTRUCTION			
Yearly change %	Buildings	Civil engineering	Total
2001	4.7	5.9	5.0
2002	4.8	10.2	6.2
2003	9.4	13.2	10.4
2004	14.9	14.8	14.9
2005	12.1	10.8	11.8
2006	6.6	17.4	9.4
2007	5.2	1.0	4.0
2008 (a)	6.0	-	-

(a) Estimate.

Source: Statistical Service, Quarterly Index of Output Prices in Construction.

### Renovation costs

On the basis of information collected by market participants, the cost of renovation<sup>7</sup> is around two-thirds that of the cost of construction of new housing units per square metre. This is verified by information included in the Antonis Loizou Survey on the prices of new and second-hand (resale) homes.

**Figure 5: Price discount for old/resale buildings**

PRICE DISCOUNT FOR OLD/RESALE BUILDINGS	
Flats	25%-30%
Houses	15%-25%
Holiday homes	15%-20%
Offices	10%-15%
Shops	5%
Hotels	15%
Factories	5%-10%

Source: Antonis Loizou & Associates, Cyprus Real Estate Property Index.

<sup>6</sup> Platis, Orphanides and Mullen, *The Property Regime in a Cyprus Settlement*, PRIO, 2006, Table 1, p. 17, citing Matsis (2004a and b).

<sup>7</sup> In this case, by renovation we mean substantial structural renovation, such as might be required for dwellings that have not been lived in or have been barely renovated for decades.

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In other words, the skeletal structure of a building usually accounts for 30%-40% of total construction cost, at contractor cost. Nevertheless, in the case of the buildings in the fenced area of Famagusta and in other areas which have remained idle and unattended for nearly 35 years, the skeletal structure itself will need to be restored and reinforced. Therefore in our calculations we make the assumption that restoration will amount to 70% of total construction costs. Above we have assumed that the cost of building a new dwelling is €1,000 per square metre. *Hence, in our calculations for the cost of renovating old homes we shall use an estimate of around €700 per square metre.*

## Chapter 3

# FOUR SCENARIA FOR NEW HOUSING AND RENOVATION

In this chapter, we examine four different scenaria for the value of both the construction of new housing and the renovation of old houses. As will be explained in this and other chapters, this value should be seen not only as a cost incurred by the private or public sector but also as an investment, which in turn will create economic growth and jobs. Below we separate public-sector financing from private-sector financing. For our calculations we use the population and displaced persons estimates and the construction and renovation cost figures outlined in Chapter 2.

Our scenaria should not be seen in any way as proposals for geographical or other arrangements accompanying a possible solution. Rather, the presentation of four scenaria is intended to indicate the *range* within which the reconstruction costs of a solution may vary, depending on the specific arrangements agreed by the community leaders and approved by the people.

The first two scenaria are what we have termed “Maximum scenaria”. They are extreme scenaria that serve as a useful benchmark for calculating what might turn out to be the total actual construction and renovation investment and costs, for reasons that will be explained below. The second two scenaria are based on our adaptations to previous attempts at a settlement, namely the third and fifth versions of the Annan Plan.

### Maximum scenario 1

Under the first maximum scenario, we calculate the cost of restitution and resettlement on the basis of the assumption that all displaced Greek Cypriots want to return to their original homes, in either the Greek Cypriot or Turkish Cypriot constituent state, and that all displaced Turkish Cypriots residing in Greek Cypriot properties want to remain or resettle in the same area in which they currently live.

According to Figure 1 in Chapter 2, the number of Greek Cypriots who moved from north to south in 1974 was 162,000 and the number of Turkish Cypriots who moved from south to the north after 1974 was 48,078. Based on Greek Cypriot sources for 1976,<sup>8</sup> showing an average

<sup>8</sup> Statistical Service, Demographic Report, 2005 p. 42.

household size of four persons, this means  $162,000/4 = 40,500$  Greek Cypriot households return north and  $48,078/4 = 12,020$  Turkish Cypriot households stay.<sup>9</sup>

In this scenario we assume that the Turkish Cypriots staying on will be entitled to new housing, or, if they remain in the property of their current residence, the returning Greek Cypriots would be entitled to new housing instead. Therefore if all the Greek Cypriot refugees return to the north, 12,020 new homes will have to be constructed for either returning Greek Cypriots or resettling Turkish Cypriots, at our estimated cost of €1,000 per square metre. We further assume that the remaining Greek Cypriots, which will be  $162,000 - 48,078 = 113,922$  persons, would restore/renovate their old homes. This would represent  $113,922/4 = 28,481$  homes at our estimated renovation cost of €700 per square metre (see Figure 6).

The average size of a dwelling south of the Green Line in 2006 was 149 square metres, whereas in several versions of the Annan Plan the size of a dwelling for three persons was stipulated as at least 100 square metres.<sup>10</sup> We have therefore assumed that the average size of new dwellings built will be approximately in the middle, namely at 130 square metres. We have assumed that the average size of the dwelling to be renovated is a little smaller, at 125 square metres, since the size of dwellings 34 years ago was smaller than today.

#### **Variant A: inclusion of additional 50,000 persons**

In each of the two maximum scenarios we also examine a variant that estimates the additional impact of accommodating 50,000 long-term residents of Turkish origin. This specific number has been mentioned in many official statements of the Greek Cypriot leadership and at the same time corresponds to some implicit results of the 2006 census of population conducted in the north.

Certainly the costs based on Variant A in both this scenario and Scenario 2 are unrealistically high, especially for the public sector, since in practice it is unlikely that all Greek Cypriots will be returning. Hence, in practice *the number of non-Cypriots staying on may to a great extent be offset by the number of non-returning Greek Cypriots*. Nevertheless, we include it so that a truly maximum figure could be estimated as a reference value for housing requirements.

#### **Total housing and renovation expenditure under Scenario 1**

Under Scenario 1, in which all Greek Cypriots return and all Turkish Cypriots stay, private expenditure on renovation amounts to €2.5 billion, public expenditure on new homes amounts to €1.6 billion and total financing amounts to €4.1 billion. Variant A would raise total financing to €4.6 billion.

<sup>9</sup> Here it should be noted that although the number of refugees has increased over time (because refugee status is passed from one generation to the other in Cyprus), the amount of dispossessed houses and other property remains the same as it was at the time of dispossession. Therefore, in order to calculate the number of homes that were dispossessed or inhabited by Turkish Cypriots, it is best to divide the population by the average size of households at the time of dispossession/new inhabitants (4 persons), rather than the average size of households today (around 3 persons).

<sup>10</sup> Annan Plan V, Annex VII, Attachment 1, Article 1(2).

**Figure 6: Maximum scenario 1: All GCs return, all TCs stay**

<b>MAXIMUM SCENARIO 1: ALL GCs RETURN, ALL TCs STAY</b>					
	<b>Number of persons</b>	<b>New housing &amp; renovation (number)</b>	<b>Private financing € m</b>	<b>Public financing € m</b>	<b>Total financing € m</b>
<b>Primary scenario 1</b>					
All displaced GCs return	162,000				
All displaced TCs stay	48,078				
New homes for returning GC or resettling TC (48,078/4)		12,020			
Old homes renovated by remaining GC (162,000-48,078)/4		28,481			
Cost of new homes in € m (12,020*130*€1000)				€1,563	
Cost of renovating old homes in € m (28,481*125*€700)			€2,492		
<b>Total housing and renovation cost/investment, € m</b>			<b>€2,492</b>	<b>€1,563</b>	<b>€4,055</b>
<b>Variant A: inclusion of additional 50,000 persons</b>					
New homes for returning GC or resettling TC	48,078				
Incl. 50,000 long-term residents of Turkish origin (48,078+50,000)/4	50,000	24,520			
Old homes renovated by remaining GC ((162,000-48,078-50,000)/4)		15,981			
Cost of new homes in € m (24,520*130*€1000)				€3,188	
Cost of renovating old homes in € m (15,981*125*€700)			€1,398		
<b>Total housing and renovation cost/investment, € m (Variant A)</b>			<b>€1,398</b>	<b>€3,188</b>	<b>€4,586</b>

Source: Authors' estimates.

## Maximum scenario 2

Under the second maximum scenario, all Turkish Cypriot refugees want to return to their original homes in the Greek Cypriot constituent state and all Greek Cypriot refugees currently residing in Turkish Cypriot homes south of the Green Line want to remain or resettle in the same area in which they currently live. The remaining Greek Cypriot refugees return north. The number of Greek Cypriot refugees returning to their original homes in the north is thus reduced by the number of Greek Cypriot refugees currently residing in Turkish Cypriot homes, who do not return. In this scenario, the Greek Cypriot refugees living in Turkish Cypriot homes would be entitled to new housing. Alternatively, if they remain in the property, the returning Turkish Cypriots would be entitled to new housing instead.

Under this second maximum scenario, there will be 48,078 Turkish Cypriots, or 12,020 households, returning to the south. On the basis of data from the 2001 census of population conducted by the Statistical Service, 4,096 homes of Turkish Cypriot ownership were being inhabited by Greek Cypriot households in 2001. Given that the average size of a household at the time was 3.06 persons, the number of Greek Cypriots living in Turkish Cypriots homes in the south was around  $4,096 \times 3.06 = 12,534$  persons.

Hence, there will be  $162,000 - 12,534 = 149,466$  Greek Cypriots returning north, while 12,534 Greek Cypriots or Turkish Cypriots (or a mixture of the two) will be resettling in the south. As explained above, 12,534 refugees corresponded at the time of dispossession to  $12,534 / 4 = 3,134$  dispossessed homes. Under Scenario 2, therefore 3,134 new homes will have to be built, while the remaining  $48,078 - 12,534 = 35,544$  Turkish Cypriots will be restoring their old homes in the south (see Figure 7).

The 149,466 Greek Cypriots returning to the north represent  $149,466 / 4 = 37,367$  dispossessed homes. Of this number,  $48,078 / 4 = 12,020$  homes will be made available by the Turkish Cypriots returning to the south. Under our maximum scenario 2, the remaining  $37,367 - 12,020 = 25,347$  homes required for the returning Greek Cypriots will be restored or repaired.

As in Scenario 1, we also include a variant that allows for an additional 50,000 persons of Turkish origin. However, as in Scenario 1 we indicate that in practice not all displaced Greek Cypriots may be returning and hence the number of non-Cypriots staying on may more or less be offset by the number of non-returning Greek Cypriots. We nevertheless include this variant so that a truly maximum figure could be estimated as a reference value for housing requirements.

### **Total housing and renovation expenditure under Scenario 2**

Under Scenario 2, in which all Turkish Cypriots return and all Greek Cypriots living in Turkish Cypriot homes want to stay, private expenditure on renovation amounts to just under €3 billion, public expenditure on new dwellings amounts to €407 million and total financing amounts to €3.4 billion. Variant B would raise total financing to €3.9 billion.

**Figure 7: All TCs return, all GCs in TC homes want to stay**

<b>MAXIMUM SCENARIO 2: ALL TCs RETURN, ALL GCs in TC HOMES WANT TO STAY</b>					
	<b>Number of persons</b>	<b>New housing &amp; renovation (number)</b>	<b>Private financing € m</b>	<b>Public financing € m</b>	<b>Total financing € m</b>
<b>Primary scenario 2</b>					
GC displaced	162,000				
TC displaced returning to the south	48,078				
GC residing in TC homes	12,534				
GC returning north (162,000-12,534)	149,466				
New homes for GC/ TC resettling in the south (12,534/4)		3,134			
Old homes renovated by remaining TC (48,078-12,534)/4		8,886			
Homes required in north by returning GC (149,466)/4		37,367			
Homes made available by TC returning south (48,074/4)		12,020			
Old homes renovated by remaining GC (37,367-12,020)		25,347			
Cost of new homes in € m (3,134*130*€1000)				€407	
Cost or renovating old homes in € m					
By TC in south (8,886*125*700)			€778		
By GC in north (25,347*125*700)			€2,218		
<b>Total housing and renovation cost/investment, €m</b>			<b>€2,995</b>	<b>€407</b>	<b>€3,403</b>
<b>Variant B : inclusion of additional 50,000 persons</b>					
New homes required in north by returning GC (149,466/4)		37,367			
Homes made available by TC returning to the south (48,078)/4		12,020			
Homes required by additional 50,000 staying on (50,000)/4		12,500			
Old homes renovated by remaining GC (37,367-12,020-12,500)		12,847			
Homes required by returning GC or resettling 50,000 persons		12,500			
Cost of new homes in € m					
Cost of new homes in the south (3,134*130*1000)				€407	
Cost of new homes in the north (12,500*130*1000)				€1,625	
Cost or renovating old homes in € m					
By TC in south (8,886*125*700)			€778		
By GC in north 12,847*125*700)			€1,124		
<b>Total housing and renovation cost/investment, €m (Variant B)</b>			<b>€1,902</b>	<b>€2,032</b>	<b>€3,934</b>

Source: Authors' estimates.

### Scenarios 3 and 4: adjusted provisions of Annan III and V

The following estimates are partly but not entirely based on the property provisions of the third and fifth versions of the Annan Plan (Annan III and Annan V). Although we do not expect either plan to be replicated in a new settlement, we have used them as a reference because they constitute the only detailed plans that have been presented in years. The outcome of this analysis should therefore be viewed as part of the range of possible outcomes in terms of cost, as explained at the beginning of the chapter.

Both versions of the plan included phased territorial adjustment (the handing of territory from Turkish Cypriot control to Greek Cypriot control), both plans included the right of restitution for certain categories of refugees (“dispossessed owners” in the plans) and both plans limited in one way or another the number of people from one constituent/component state who could live in the other. However, it should be noted that only in the case of *restitution* would other people be displaced. There was a clear distinction between right of restitution and right of return.<sup>11</sup> Therefore, in calculating housing needs after a settlement, we only need to consider the right of restitution.

#### Adjustments to Annan III and V provisions

In our scenario we make further adjustments to the provisions of Annan III and Annan V with respect to housing. In Annan III and Annan V, the amount of public-sector housing that would be made available at no cost to people displaced by the settlement would have been limited. Only in cases of “urgent humanitarian need” would accommodation be made available at no cost. Even then, it would have been made available from properties held by the Property Board.<sup>12</sup> Others “without sufficient financial means” would be entitled to low interest loans.<sup>13</sup> It is not made explicit in the plan, but it is clear from an interview with a UN official that those of sufficient financial means, including refugees who were being displaced for the second or third time, would pay for their own new housing using compensation or other funding.<sup>14</sup> In our scenario, however, we make two adjustments.

<sup>11</sup> The right to return included the over-65s, former residents of Karpas and, in the long term, a certain proportion of the population. However, even though these groups might be given priority over others, their restitution rights under Annan III would fall within the same overall limits as everyone else. According to our estimates, 6,089 houses would be restituted in the Karpas region. “The fact that someone has a right to return does therefore not mean that he or she is reinstated to his or her property nor does reinstatement to a property automatically entitle the owner to residency rights”, Interview taken by Süleyman Ergüçlü with UN official Didier Pflirter, on Kibris TV, 23 March 2003.

<sup>12</sup> “In cases of urgent humanitarian need and where not eligible for preferential loans, [current users may apply to the Property Board for] the allocation of low-cost or cost-free alternative accommodation from the holdings of the Property Board: Annan III and V, Annex VII, Attachment 3, Section A, Article 2(2)(b).

<sup>13</sup> “Under this scheme, preferential loans shall be made available on favourable terms for dispossessed owners, current users of affected property and owners of significant improvements to affected property who are Cypriot citizens and who are without sufficient financial means, in order to facilitate the purchase or construction of property (including the purchase of significantly improved property) or make payments required under these provisions.”: Annan III and V, Annex VII, Attachment 3, Section B, Article 4(2).

<sup>14</sup> “If they do have money, for instance because they recover their former properties in the South and sell them or they get compensation for those properties, they will be able to build a house to their own liking, where they want”, Interview taken by Süleyman Ergüçlü with UN official Didier Pflirter, on Kibris TV, 23 March 2003.



- Unlike Annan III and V, we assume that the government (at either federal or constituent state level) builds new houses for all of those displaced by the property provisions of a settlement.
- Unlike Annan III and V, we assume that the public sector assumes the entire cost of new housing, at least in the first five years.

The assumption that the government will build new housing is based on Çelik et al (2003).<sup>15</sup> According to this report, three new housing complexes would be built to accommodate the displaced. They would be built in Morphou/Guzelyurt, Aslanköy/Angastina and Famagusta/Gazimagusa.

### Territorial adjustment (Annan III and V)

According to Annan III and Annan V (Annex VI, Attachment 3 of both plans), a total of 51 locations were subject to territorial adjustment. The adjustment would take place in several stages: 3 months after the entry into force of the agreement, 6 months, 12 months, 2 years, 2.5 years and 3 years.

Figure 8 shows the number of people currently living in these villages from the population census of 2006.<sup>16</sup> Based on the new census figures, the number of people living in these villages who would need to be relocated owing to territorial adjustment is 47,802 and the estimated number of households in these villages that would be displaced by territorial adjustment is 13,709.

**Figure 8: Territorial adjustment under Annan III and V**

TERRITORIAL ADJUSTMENT IN ANNAN III AND V		
Period of handover	Population displaced by territorial adjustment	Households displaced by territorial adjustment
3 months	0	n/a
6 months	0	n/a
12 months	106	34
2 years	5,731	1,780
2.5 years	9,362	2,165
3 years	32,603	7,720
<b>Total</b>	<b>47,802</b>	<b>13,709</b>
<b>Memorandum item</b>		
Turkish Cypriots displaced since 1963	23,000	7,256

Sources: 2006 census and authors' calculations of household numbers for smaller villages.

<sup>15</sup> Celik T., Garip M., Gorgu R. & A. Fikretler, "Annan Planı Temelinde Çözümün Kıbrıs Türklerine Maliyeti" ("The Cost of Re-Settling the Turkish Cypriots in a Solution Based on the Annan Plan"), November, 2003.

<sup>16</sup> 2006 Census, State Planning Organization, www.devplan.org.

### **Note on Turkish Cypriot dispossessed owners**

According to PRIO citing UN figures,<sup>17</sup> 23,000 of the people who would be displaced from the areas subject to territorial adjustment are Turkish Cypriots who moved from the south to the north in the period 1963 to 1974. Most of these people have property in the south. In practice, therefore, some of them would move back to their original property and some of them would use compensation to purchase new property. Using the average size of a housing unit in the north of 3.17, this would reduce the new housing requirement for the public sector by  $23,000/3.17 = 7,256$ . However, since it is not clear whether or how this would operate in practice we have assumed, as above, that new houses will be built for these people too. We have therefore added it only as a memorandum item in our table.

### **New housing requirement outside Territorial Adjustment areas (adjusted Annan III)**

In Annan III the numbers who would be given their property back was given a clear limit. The Foundation Agreement, Main Articles, Article 10-3 (e) states:

“Properties not covered by the above shall be reinstated five years after entry into force of this Agreement (three years for vacant properties), provided that no more than 10% of the area and residences in either constituent state and 20% in any given municipality or village (other than villages specifically designated in this Agreement) shall be reinstated to owners from the other constituent state.”

We can calculate how many residences would be restituted on the basis of the above-mentioned 2006 census. The 2006 census results showed that the total number of dwellings in the northern side is 72,624 (and that the population is 256,644). A 10% limit on the number of residences that can be restituted in this constituent state means a maximum of  $0.1 * 72,624 = 7,262$  households under these property arrangements. Given that the current household average size is 3.17 persons, the 10% cap would therefore displace  $7,262 * 3.17 = 23,020$  people (see Figure 9). Note that we do not subtract the number of people or households displaced by territorial adjustment from this number because we assume that most will move from what will become the Greek Cypriot Constituent State into the Turkish Cypriot Constituent State. We therefore assume that they would fall under the total number of residences in the north. Together with territorial adjustment, this brings the total number of people displaced under our adjusted Annan III scenario to 70,822, creating a requirement for 20,971 new houses.

<sup>17</sup> *The Property Regime in the Annan Plan, a Citizen's Guide*, International Peace Research Institute, Oslo (PRIO), 2003, p. 4.

### Total cost of new housing under adjusted Annan III provisions

In Chapter 2 we estimated that a new dwelling at today's prices costs €1,000 per square metre. We also assumed that a new dwelling would be 130 square metres in size (a mid-point between the Annan Plan provisions and the average size of a new dwelling in the south). We further assume that all new housing is built on public land and paid for by the public sector. Under these assumptions, the cost to the government of new housing in the areas subject to territorial adjustment is  $13,709 \times 130 \times 1000 = €1,782,170,000$ . The additional cost under our adjusted Annan III provisions is  $7,262 \times 130 \times 1000 = €944,037,855$ . The combined housing cost for the areas subject to territorial adjustment and property arrangements is therefore €2.7 billion.

**Figure 9: New housing costs under adjusted Annan III provisions**

NEW HOUSING COSTS UNDER ADJUSTED ANNAN III PROVISIONS			
Adjusted Annan III provisions(a)	Number of people displaced	New housing requirement	Public sector cost(b) at €1000/m2 excl. land
1. Territorial adjustment areas: full restitution	47,802	13,709	€1,782,170,000
2. Part restitution in the Turkish Cypriot constituent state Restitution capped at 10% of residences (20% in single villages)	23,020	7,262	€944,037,855
<b>Total</b>	<b>70,822</b>	<b>20,971</b>	<b>€2,726,207,855</b>

(a) Ignores provisions that foresaw displaced people funding at least some their own new housing.

(b) Assumes that in the first five years the public sector takes on the whole cost of new housing.

Source: Authors' estimates.

### Renovation expenditure under adjusted Annan III provisions

As in Scenarios 1 and 2, in order to obtain a full picture of spending on housing, we make a further calculation of the amount of investment made by the private sector on renovating homes which are returned to their original owners. Here, we also need to add spending by Turkish Cypriots on homes returned to them in the south. In practice, it is possible that not all houses will be renovated within the first five years. However, we assume for the purposes of this exercise that, as in Scenarios 1 and 2, all returning refugees do spend money renovating the original homes to which they return. We also assume, as above, that renovation is 70% of the cost of new building and that the original homes are an average 125 square metres. Under this scenario, an additional €1.8 billion would be spent by the private sector on renovation under the adjusted Annan III provisions.

**Figure 10: Renovation spending under adjusted Annan III provisions**

<b>RENOVATION SPENDING UNDER ADJUSTED ANNAN III PROVISIONS</b>		
<b>Adjusted Annan III provisions(a)</b>	<b>Homes restituted and renovated</b>	<b>Private sector cost(b) 125 m2 at €700/m2</b>
1. Territorial adjustment areas: full restitution	13,709	€1,199,537,500
2. Restitution capped at 10% of residences in either constituent state		
Greek Cypriot restitution (0.1*72,624)	7,262	€635,410,095
Turkish Cypriot restitution 0.1*(48,078/4)	1,202	€105,170,625
<b>Total</b>	<b>20,971</b>	<b>€1,834,947,595</b>

(a) Ignores provisions that foresaw displaced people funding at least some their own new housing.

(b) Assumes that all returnees renovate the original homes to which they return.

Source: Authors' estimates.

### **Total housing and renovation expenditure under Scenario 3**

Under Scenario 3, in which the territorial adjustment arrangements are those of Annan III and a further 10% of homes are restituted, private expenditure on renovation amounts to just over €1.8 billion, public expenditure on new dwellings amounts to €2.7 billion and total financing amounts to €4.6 billion.

### **New housing requirement outside Territorial Adjustment areas (adjusted Annan V)**

According to Annan V, in the areas not subject to territorial adjustment, all dispossessed owners had the right to reinstatement of “one-third of the value and one-third of the area of their total property ownership”, and to receive compensation for the remainder.<sup>18</sup> The same subsection of the same paragraph has a second rule, saying that they have the right to reinstatement of certain dwellings: “they have the right to reinstatement of a dwelling they have built, or in which they lived for at least ten years, and up to one donum of adjacent land, even if this is more than one-third of the total value and area of their properties”. However, how this rule would work in practice is the subject of serious confusion, as it appears at first glance to imply that all refugees are entitled to at least the home they used to live in (or a house nearby). This would triple the new housing requirement in the areas outside territorial adjustment according to our estimates. However, as becomes clear much later in the text of Annan V (and Annan III), this right is subject to all kinds of caveats, in which it appears that five other categories

<sup>18</sup> Main Articles, Article 10(3)(b).

take priority.<sup>19</sup> Since there is still confusion about the impact of the dwelling rule to this day, even among those who have studied the plan very closely, we have decided to exclude it from our estimates. We have therefore made an independent assumption, namely that one-third of dwellings are restituted in those areas that are not subject to territorial adjustment.

As calculated in Chapter 2, the number of Greek Cypriots who were displaced is 162,000 and the number of Turkish Cypriot is 48,078. We also know that at that time, the average size of a dwelling was around four persons. This means that the number of dwellings that Greek Cypriots lost is approximately  $162,000/4 = 40,500$  and the amount of property that Turkish Cypriots lost is  $48,078/4 = 12,020$ . When we apply the one-third rule, we find that  $40,500/3=13,500$  of houses will be given back to Greek Cypriots in the Turkish Cypriot constituent state and  $12,020/3 = 4,007$  houses will be given back to Turkish Cypriots in the Greek Cypriot constituent state.

This creates as need for  $13,500-4,007 = 9,494$  new houses in the Turkish Cypriot constituent state under our adjusted Annan V scenario (see Figure 11). Some of the Turkish Cypriot houses in the south are also inhabited. For the purposes of our estimates, however, we assume that at least one-third of them are unoccupied and therefore can be restituted without displacing other people. In other words, a housing requirement is created only by restitution in the Turkish Cypriot constituent state.

### **Total cost of new housing under adjusted Annan V provisions**

As noted above, we estimate the cost to the government of new housing in the areas subject to territorial adjustment is €1,782,170,000. The additional cost under our adjusted Annan V provisions is  $9,494*130*1000 = €1,234,155,000$  in the Turkish Cypriot constituent state. The combined housing cost for the areas subject to territorial adjustment and property arrangements is therefore €3.0 billion.

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<sup>19</sup> The crucial article is in Annex VII, Part II, Section B, Article 15 "Affected properties which do not fall into the above categories shall be eligible to be reinstated." The five categories listed in the preceding Articles 10-14 are property which is: 1) used for public benefit; 2) used for military purposes; 3) inhabited by dispossessed owners; 4) inhabited by those who have purchased from dispossessed owners; and 5) inhabited by those who have significantly improved the property under certain definitions for what constitutes significant improvement.

**Figure 11: New housing costs under adjusted Annan V provisions**

<b>NEW HOUSING COSTS UNDER ADJUSTED ANNAN V PROVISIONS</b>			
<b>Adjusted Annan V provisions(a)</b>	<b>Number of people displaced</b>	<b>New housing requirement</b>	<b>Public sector cost(b) at €1000/m2 excl. land</b>
1. Territorial adjustment areas: full restitution	47,802	13,709	€1,782,170,000
2. Part restitution in the Turkish Cypriot constituent state			
Greek Cypriot house restitution (162,000/4/3)	42,795	13,500	
Turkish Cypriot house restitution (48,078/4/3)	-12,701	-4,007	
Net restitution in the Turkish Cypriot constituent state	30,094	9,494	€1,234,155,000
<b>Total</b>	<b>77,896</b>	<b>23,203</b>	<b>€3,016,325,000</b>

(a) This scenario ignores the small landowner privilege (one house and one donum) in Annan V, since eligibility for this entitlement was very unclear and there are conflicting interpretations.

(b) Assumes that in the first five years the public sector takes on the whole cost of new housing.

Source: Authors' estimates.

### Renovation expenditure under adjusted Annan V provisions

As in the first three scenarios, we make further calculations for spending by both Greek Cypriot and Turkish Cypriot returning refugees on renovating their original homes. According to our calculations, private-sector spending on renovation would amount to €2.7 billion under our adjusted Annan V provisions.

**Figure 12: Renovation spending under adjusted Annan V provisions**

<b>RENOVATION SPENDING UNDER ADJUSTED ANNAN V PROVISIONS</b>		
<b>Adjusted Annan V provisions(a)</b>	<b>Homes restituted and renovated</b>	<b>Private sector cost(b) 125 m2 at €700/m2</b>
1. Territorial adjustment areas: full restitution	13,709	€1,199,537,500
2. One-third restitution of residences in either constituent state		
Greek Cypriot restitution (162,000/4/3)	13,500	€1,181,250,000
Turkish Cypriot restitution (48,078/4/3)	4,007	€350,568,750
<b>Total</b>	<b>31,216</b>	<b>€2,731,356,250</b>

(a) This scenario ignores the small landowner privilege (one house and one donum) in Annan V, since eligibility for this entitlement was very unclear and there are conflicting interpretations.

(b) Assumes that all returnees renovate the original homes to which they return.

Source: Authors' estimates.

### Total housing and renovation expenditure under Scenario 4

Under Scenario 4, in which the territorial adjustment arrangements are those of Annan V and a further one-third of homes are restituted, private expenditure on renovation amounts to just over €2.3 billion, public expenditure on new dwellings amounts to €3 billion and total financing amounts to €5.7 billion.

### Summary: housing costs under the four scenarios

We can now make an estimate for public-sector cost and private-sector investment based on the four scenarios above. The total investment by the private sector in renovation ranges from €1.4 billion to €3.0 billion. The total cost of new housing for the public sector ranges from €407 million (under our extreme scenario) to €3.2 billion. The total combined cost of new housing and renovation ranges from €3.4 billion to €5.8 billion. Here, we can see that the scenarios that are most favourable to Greek Cypriots and Turkish Cypriots respectively (all Greek Cypriots return, all Turkish Cypriots return) are the cheapest in terms of public-sector cost. However, they are unlikely to be the ones chosen as part of a settlement that can satisfy both communities. For the purposes of our financing calculations in Chapter 7 and our GDP forecast in Chapter 9 we shall take the average of all scenarios. This is €2.2 billion in private-sector renovation, €2.2 billion in new housing financing by the public sector, giving total fixed investment of €4.4 billion.

**Figure 13: New housing and renovation costs under different scenarios**

NEW HOUSING AND RENOVATION SPENDING UNDER DIFFERENT SCENARIA. € m			
	Private sector renovation cost	Public sector new housing cost	Total public and private sector cost
1. Maximum scenario 1 (all GC return, all TC want to stay)	€2,492	€1,563	€4,055
<i>Scenario 1 variant</i>	€1,398	€3,188	€4,586
2. Maximum scenario 2 (all TC return, all GC in TC homes want to stay)	€2,995	€407	€3,403
<i>Scenario 2 variant</i>	€1,902	€2,032	€3,934
3. Adjusted Annan III (10% cap on restitution of residences)	€1,835	€2,726	€4,561
4. Adjusted Annan V (one-third only returned)	€2,731	€3,016	€5,748
<b>Average</b>	<b>€2,226</b>	<b>€2,155</b>	<b>€4,381</b>

Note: Construction costs at contractor costs. Assumes houses are built on state-owned land.

Source: Authors' estimates.

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## Chapter 4

# INVESTMENT IN VAROSHA

**T**he fenced area of Famagusta (Varosha) has remained idle for nearly 35 years and hence its reconstruction/renovation is expected to be all encompassing. The authors are therefore devoting a separate section of the report to the reconstruction of this specific area. It should be noted, however, that the costs of *rebuilding or restoring housing units in the fenced area of Famagusta are already included in the housing costs estimated in Chapter 3*. Here, therefore, we concentrate only on the cost of necessary infrastructure, as well as other buildings such as hotels.

### Data sources

An attempt was made by the authors to procure detailed figures concerning the population of Famagusta before the events of 1974, as well as the number of housing units and hotel beds. However, it is interesting to note that official publications that were produced by the then Department of Statistics containing the above details are now nowhere to be found. For instance, accurate and disaggregated data on the population of Cyprus and its geographical distribution were produced and included in the 1973 Census of Population but that is no longer available for public view even in hard copy format. Data on the tourist accommodation capacity of 1973 and its geographical distribution were produced and included in the 1973 Tourism, Migration and Travel Statistics. But that too has not become available on the website of the Statistical Service.

Nevertheless, the authors did manage to locate<sup>20</sup> some of the basic tables of the 1960 and 1973 population censuses, which shed light on basic assumptions about numbers of inhabitants and numbers of housing units in Varosha (see also Appendices).

### Population

On the basis of Table 2 of the 1973 Census of Population, there were 38,960 persons living in the urban area of Famagusta. Using figures from Table 5 of the 1960 population census as a basis, we estimate that 21,436 were Moslems, which we assume to be Turkish Cypriots. The remainder, an estimated 17,524, are assumed to be mainly Greek Cypriots and therefore to have been displaced in 1974.

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<sup>20</sup> [www.kyreniamunicipality.com](http://www.kyreniamunicipality.com).



**Figure 14: Historical population of Famagusta**

HISTORICAL POPULATION OF FAMAGUSTA			
	1960	1973	% increase
Urban area	34,752	38,960	12.11
Moslems(a)	19,121	<i>21,436</i>	<i>12.11</i>
Greek Orthodox & others	15,631	<i>17,524</i>	<i>12.11</i>

(a) Assuming all Moslems lived in urban areas.

Note: Authors' estimates in italics

Sources: 1973 Census of Population and authors' estimates.

Not all of these estimated 17,524 Greek Cypriots lived in what is now the fenced area of Famagusta. We therefore take as a basis the figure of 16,000 persons that was used by other studies in 2003 for the population of the currently fenced area of Famagusta.<sup>21</sup>

### Housing units in Varosha

On the basis of Table 7 of the 1960 Census of Population, the 34,752 inhabitants of the urban area of Famagusta were housed in 8,139 housing units. By deduction the average number of residents per housing unit was 4.27 persons. If we assume that this number had fallen to 4 by 1973, then the 16,000 displaced Greek Cypriots in 1974 were housed in 4,000 housing units. We therefore assume that 4,000 housing units will be either restored or reconstructed in the fenced area of Famagusta assuming the return of its former inhabitants.

**Figure 15: Housing units in Varosha**

HOUSING UNITS IN VAROSHA		
	1960	1973
Population in urban area	34,752	38,960
Housing units	8,139	9,740
Residents per housing unit	4.27	<i>4.00</i>
Greek Cypriots in the fenced area	-	<i>16,000</i>
Housing units	-	<i>4,000</i>

Note: Authors' estimates in italics

Sources: 1973 Census of Population and authors' estimates.

### Hotel beds

According to Central Bank sources,<sup>22</sup> 8,353 hotel beds lost as a result of the 1974 events were situated in Famagusta and Kyrenia. Since Famagusta was at that time the bigger resort, we assume that 8,000 hotel beds (4,000 two-bed rooms) were situated in the fenced area of Varosha.

<sup>21</sup> Planning Bureau in the south and Vassiliou team study: George Vassiliou, Praxoula Antoniadou-Kyriacou, Christos Partasides, Costas Paschalis, Zenon Pofaides and Stelios Platis, "The economics of the solution based on the Annan Plan", September 2003.

<sup>22</sup> Central Bank of Cyprus, *Annual Report 1975*, p. 31.

### **Construction and renovation costs**

The construction cost for dwellings is based on the methodology outlined in Chapter 2 and is estimated at €1,000 per square metre. The costs of constructing non-residential buildings such as hotels, offices and shops are based on the data produced by the Statistical Service in the south. Costs for the construction of roads are based on data from consultants that have recently been involved in the construction of roads. Costs of other items of infrastructure are based on data presented in the report by the Vassiliou team and have been adjusted for increases in output prices in the construction sector as presented in data produced by the Statistical Service.

The skeletal structure of a building usually accounts for 40% of total construction cost, at contractor cost. Nevertheless, in the case of the buildings in the fenced area of Famagusta which have remained idle and unattended for nearly 35 years, the skeletal structure itself will need to be restored and reinforced. Hence the assumption of 70% of total construction costs in the case of restoration.

### **Both reconstruction and restoration costs included**

In our calculations we have given both reconstruction and restoration costs. This is because choice between reconstruction and restoration involves a social justice issue. It would be unfair to ask people who were waiting for 35 years to return to their homes that their city be demolished and reconstructed, because in such a case many people will permanently lose their properties, through rezoning or other town planning changes.

### **Homes and commercial premises**

On the assumption that all 4,000 housing units are reconstructed, the required investment would amount to €560 million. This is based on the estimate of an average area of 140 square metres per housing unit in this affluent urban area of Famagusta at the time and on the basis of an estimated construction cost of €1,000 per square metre, derived as explained in Chapter 2. Alternatively, restoration of these dwellings would only cost 70% of the reconstruction amount, i.e., €392 million.

Costs per metre square for reconstructing or restoring hotel rooms, shops, offices and restaurants (excluding cost of furnishing in all cases) were based on data from the Statistical Service,<sup>23</sup> adjusted for increases in output prices.

For private-sector financing, we envisage that the government could facilitate financing by subsidizing the interest rate cost of the loans, to be spread out over a period of at least three years for housing and up to five years for other infrastructure projects. However, we have not included the cost of such a subsidy in our calculations.

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<sup>23</sup> Statistical Service, Construction and Housing Statistics, 2006, Table 14.

**Figure 16: Reconstruction of Varosha: Homes and commercial premises**

<b>RECONSTRUCTION OF VAROSHA: HOMES AND COMMERCIAL PREMISES</b>			
<b>Type of investment expenditure (a)</b>	<b>Public (b) financing € m</b>	<b>Private financing € m</b>	<b>Total financing € m</b>
<b>Restitution of 16,000 GC at average 140 sq m per dwelling</b> Rebuilding of 4,000 housing units (4000*140*€1000) <i>Or: Restoration of 4,000 housing units (4000*140*€700)</i>		€560.0 €392.0	€560.0 €392.0
<b>Hotel accommodation (c) at average 85 sq m per room</b> Rebuilding of 4000 hotel rooms (4000*85*€1500) <i>Or: Restoration of 4000 hotel rooms (4000*85*€1050)</i>		€510.0 €357.0	€510.0 €357.0
<b>Shops, offices, restaurants(c) at average 100 sq m</b> Rebuilding of 1000 units (1000*100*€800) <i>Or: Restoration of 1000 units (1000*100*€560)</i>		€80.0 €56.0	€80.0 €56.0
<b>Manufacturing units at average 1000 sq m</b> Restoration or change of use (92*1000*€500)		€46.0	€46.0
<b>Subtotal: homes and commercial premises</b>			
Rebuilding housing, hotels, shops, offices and restaurants <i>Or: Restoring housing, hotels, shops, offices and restaurants</i>		€1,196.0 €851.0	€1,196.0 €851.0

(a) Restoration in the case of Varosha is taken to be 70% of total construction costs, at contractor cost.

(b) Federal or state government may subsidize interest-rate costs but we have not included the costs here.

(c) Excludes cost of furnishing.

Source: Authors' estimates.

### Schools and infrastructure

The source of description of most items with reference to infrastructure is the abovementioned Vassiliou team report. Costs have been adjusted in accordance with the annual increases in output prices in the construction sector, as captured by the Statistical Service. The cost of constructing roads has been re-estimated on the basis of detailed data on recent road construction in the south.

**Figure 17: Reconstruction of Varosha: schools and infrastructure**

<b>RECONSTRUCTION OF VAROSHA: SCHOOLS AND INFRASTRUCTURE</b>			
<b>Type of investment expenditure (a)</b>	<b>Public financing € m</b>	<b>Private financing € m</b>	<b>Total financing € m</b>
<b>Schools</b>			
Rebuilding 3 elementary schools at €4m each	€12.0		€12.0
Rebuilding 6 secondary schools at €6.5m each	€39.0		€39.0
<i>Or: Restoration of elementary and secondary schools</i>	€35.7		€35.7
<b>Emergency and police services</b>			
Extension of Paralimni hospital plus two clinics	€18.0		€18.0
Restoration of police, fire station, courts and municipality premises	€59.5		€59.5
<b>Transport and utilities infrastructure</b>			
200km of roads at €0.9 per km (b)	€180.0		€180.0
Water distribution network	€40.0		€40.0
Desalination plant (BOT)		€38.0	€38.0
Sewerage system	€77.0		€77.0
Electricity provision	€123.0		€123.0
Telecommunications infrastructure	€39.0		€39.0
<b>Other expenditure</b>			
Restoration of 7 places of worship		€7.0	€7.0
Rebuilding of football stadium	€12.0		€12.0
<b>Subtotal: schools, public buildings and infrastructure</b>			
Rebuilding plus new projects	€599.5	€45.0	€644.5
<i>Restoration plus new projects</i>	€584.2	€45.0	€629.2

(a) Source of description for some items: study by Vassiliou team.

(b) Based on recent cost for projects in the south.

Source: Authors' estimates.

### **Total infrastructure investment expenditure**

In total, the reconstruction of Varosha is estimated to require investment of €1,840.5 million, or €1,480.2 million if the restoration option is chosen where possible (see Figure 18). For the purposes of our research, we assume that the financing of the construction of homes and commercial premises is done privately, though it is suggested that the federal/state government could facilitate the financing process by subsidizing the interest rate cost of the required loans. The financing of most of the infrastructure projects is assumed to be done by the government (federal/state).

Nevertheless, the split between public and private financing is only an indication that can serve as a base scenario for politicians to decide how to finance the investment necessitated by the implementation of an agreed solution.

As mentioned above, the cost of housing in Varosha is already included in the calculations of the four housing scenarios. In order to calculate the total *non-housing* investment required for

the implementation of an agreed solution in Cyprus, therefore we present below a memorandum item on total non-housing investment in Varosha, which we shall later add to other non-housing investment in a post-settlement Cyprus. Total non-housing investment in Varosha amounts to €1.3 billion or €1.1 billion if restoration is chosen.

**Figure 18: Reconstruction of Varosha: Total investment expenditure**

<b>RECONSTRUCTION OF VAROSHA: TOTAL INVESTMENT EXPENDITURE</b>			
	<b>Private financing € m</b>	<b>Public financing € m</b>	<b>Total financing € m</b>
<b>Homes and commercial premises</b>			
Rebuilding housing, hotels, shops, offices and restaurants	€1,196.0		€1,196.0
<i>Or: Restoring housing, hotels, shops, offices and restaurants</i>	€851.0		€851.0
<b>Schools and infrastructure</b>			
Rebuilding plus new projects	€45.0	€599.5	€644.5
<i>Or: Restoration plus new projects</i>	€45.0	€584.2	€629.2
<b>Total investment expenditure in Varosha</b>			
Rebuilding plus new projects	€1,241.0	€599.5	€1,840.5
<i>Or: Restoration plus new projects</i>	€896.0	€584.2	€1,480.2
<b>Memorandum item: excluding housing</b>			
Rebuilding plus new projects excluding housing	€681.0	€599.5	€1,280.5
<i>Or: Restoration plus new projects excluding housing</i>	€504.0	€584.2	€1,088.2

(a) Source of description for some items: study by Vassiliou team.

(b) Based on recent cost for projects in the south.

Source: Authors' forecasts.

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## Chapter 5

# OTHER NECESSARY INFRASTRUCTURE

**T**he economic perspective, both the costs and benefits, is one of the most important issues for reunification. The costs are related not only with the cost of restitution and resettlement but also with the cost of infrastructure. Analysis based on Annan Plans III and IV<sup>24</sup> estimated that the government should build three new areas (“villages”) for current users that will be affected by the territorial adjustment and right of restitution.

In the event of a reunification of Cyprus, therefore, there will be significant investment needs for the relocation of persons and the accompanying infrastructure that the relocated people will need. The development of infrastructure that serves relocated people is a contingent liability of the government. Basic needs must be satisfied and it will also be essential to ensure that an adequate level of services is provided. While calculating the costs of reunification, therefore, we need to calculate the costs of building infrastructure for the new villages. This will involve investment in infrastructure, energy, water, telecommunications, roads, etc. It is known that the development of infrastructure is one of the bases for economic growth. Infrastructure development projects should be in line with EU standards and have to meet the true needs of the relocated people.

Here it is crucial to point out that the required investments for reunification are not the same as investments required for long-term development. Since upgrading infrastructure is related with long-term development projects and is not subject to reunification, our estimates do not include those projects. Thus, for example, while the upgrading of Famagusta port is desirable, it is not immediately necessary in order to implement the solution.

Our infrastructure costs below are therefore associated with the following.

- Water supply, water distribution network
- Sewage and waste water treatment plant
- Provision of electricity (including transmission lines)
- Provision of telecommunication (including cable)
- Construction of public premises for the municipality, court/district office, schools, hospital etc

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<sup>24</sup> Celik et al, 2003.

Our estimates of the costs of infrastructure that are shown in Figure 19 are compatible with those for Varosha in Chapter 4. They based on data provided by Vassiliou et al (2003), consultants, the Statistical Service in the south, as well as budgets for infrastructure projects under the European Union Aid Programme for the Turkish Cypriot Community. We added the increase in the price index of civil engineering prices to the figures in the Vassiliou team's report during 2004-2007 to adjust to today's costs.

### **Water supply and sewerage**

Natural water sources in both parts of the island face problems relating to climate change and are shrinking year by year. Owing to the scarcity of water, water supply needs will need to be provided by the construction of desalination plants. Regarding the sewage system, most of the villages in the north are not connected with the sewage network and therefore rely on septic tanks. Therefore for the new villages there is a need to construct waste-water treatment plants as well as a sewage collector system. We have therefore included an estimate for a desalination and waste-water treatment plant in our estimates. We have calculated the demand for water based on daily demand in the north. On this basis, the construction of a desalination plant for water supply needs will cost approximately €115 million and the water distribution network will cost €120 million. Together the construction of a waste-water treatment plant and sewage system for three villages is estimated around €460 million.

### **Other infrastructure costs**

The provision of power supply, including new generators and transmission lines, and provision for telecommunication infrastructure, including phone centres and cables, will cost around €480 million. The construction of public buildings such as municipality buildings, a fire station, police departments, district offices and schools, will cost €167 million. For schools, we have calculated the number of students by using the percentage of people under age of 18 compared to the total population in north. When we multiply this percentage with the total number displaced people, we can estimate the number of people under age 18 and the costs of building schools.

As seen in Figure 19, based on our assumptions, for three new rehabilitation zones around €1,170 million will be required to provide basic infrastructure.

**Figure 19: Infrastructure in the three new villages**

INFRASTRUCTURE IN THREE NEW VILLAGES	
	Public financing € m
Water distribution network	€120
Desalination and waste water treatment plant	€115
Sewage	€229
<b>Subtotal water and waste</b>	<b>€464</b>
Provision of electricity	€368
Providing telecommunications infrastructure	€116
<b>Subtotal electricity and telecoms</b>	<b>€484</b>
Construction of new hospital	€37
Construction of police station and fire department	€15
Construction of district offices/courts, municipalities	€30
Elementary schools	€20
Secondary schools	€65
<b>Subtotal public buildings and schools</b>	<b>€167</b>
Roads (60 km for three new villages)	€54
<b>Total infrastructure in three new villages</b>	<b>€1,169</b>

Source: Authors' estimates based on range of sources.

Based on unit costs for the three new villages and other known costs, we can also calculate the costs of upgrading infrastructure of the villages that will form part of the Greek Cypriot constituent state (based on Annan Plans III and V scenaria). The total costs for upgrading these villages is estimated at €406 million.

**Figure 20: Infrastructure in the territorial adjustment areas**

INFRASTRUCTURE IN TERRITORIAL ADJUSTMENT AREAS	
	Public financing € m
Improvement of water supply grid	€26
Desalination	€64
Improvement of telephone supply grid	€8
Improvement of electricity supply grid	€97
Sewage	€103
Construction and improvement of public buildings	€108
<b>Total</b>	<b>€406</b>

Source: Authors' estimates based on range of sources.



## Total value of infrastructure and housing investment

In Chapter 3 we calculated the value of investment in new housing and the renovation of old homes under four different scenarios. The total investment by the public and private sector ranged from €3.4 billion to €5.7 billion. In Chapter 4, we calculated the value of investment in Varosha, first including investment in housing but also excluding housing investment already calculated in Chapter 3. Excluding housing investment and assuming the upper cost (rebuilding rather than renovation), we calculated public and private sector investment of €1.3 billion. In this Chapter 5, we calculated the non-housing infrastructure in three new villages to be €1.2 billion and value of essential infrastructure in the areas subject to territorial adjustment to be €406 million. The total new housing, renovation and infrastructure spending, therefore, ranges from €6.3 billion to €8.6 billion (see Figure 21). The public-sector cost ranges from €2.6 billion to €5.4 billion. For the purposes of our financing calculations in Chapter 7 and GDP forecast in Chapter 8, we shall take the average of all of these values, which is €7.2 billion, of which €4.3 billion is borne by the public sector.

**Figure 21: Total housing, renovation and infrastructure spending**

<b>TOTAL HOUSING, RENOVATION AND INFRASTRUCTURE SPENDING UNDER DIFFERENT SCENARIA, € m</b>			
	<b>Private sector</b> € m	<b>Public sector</b> € m	<b>Total public and private sector</b> € m
<b>Housing and renovation investment (four scenaria)</b>			
1. Maximum scenario 1 (all GC return, all TC want to stay)	€2,492	€1,563	€4,055
<i>Scenario 1 variant</i>	€1,398	€3,188	€4,586
2. Maximum scenario 2 (all TC return, all GC in TC homes want to stay)	€2,995	€407	€3,403
<i>Scenario 2 variant</i>	€1,902	€2,032	€3,934
3. Adjusted Annan III (10% cap on restitution of residences)	€1,835	€2,726	€4,561
4. Adjusted Annan V (one-third only restituted)	€2,731	€3,016	€5,748
<b>Subtotal: average housing and renovation investment</b>	<b>€2,226</b>	<b>€2,155</b>	<b>€4,381</b>
<b>Essential infrastructure investment</b>			
Varosha excluding housing (upper cost: rebuilding)	€681	€600	€1,281
Three new villages	€0	€1,169	€1,169
Areas under territorial adjustment	€0	€406	€406
<b>Subtotal infrastructure investment</b>	<b>€681</b>	<b>€2,175</b>	<b>€2,856</b>
<b>Total housing, renovation and infrastructure investment (four scenaria)</b>			
1. Maximum cost 1 (all GC return, all TC want to stay)	€3,173	€3,737	€6,910
<i>Scenario 1 variant</i>	€2,079	€5,362	€7,441
2. Maximum cost 2 (all TC return, all GC in TC homes want to stay)	€3,676	€2,582	€6,258
<i>Scenario 2 variant</i>	€2,583	€4,207	€6,789
3. Adjusted Annan III (10% cap on restitution of residences)	€2,516	€4,901	€7,417
4. Adjusted Annan V (one-third only restituted)	€3,412	€5,191	€8,603
<b>Total housing, renovation and infrastructure investment</b>	<b>€2,907</b>	<b>€4,330</b>	<b>€7,236</b>

Source: Authors' estimates.

## Chapter 6

# PRELIMINARY ESTIMATES FOR PROPERTY COMPENSATION

In this chapter we shall make a very preliminary estimate for the value of compensation bonds that might be issued by the property agency charged with paying compensation and guaranteed by the federal government. It should be noted that *these estimates are not drawn from the four scenarios in Chapter 4*, since a full assessment is beyond the scope of this work (and Scenario 1 does not even involve compensation). However, since it is possible that interest payments on any compensation bonds issued might be paid from the regular budget (rather than from the property agency charged with receiving, issuing and selling titles), we have made a rough estimate, in order to have an idea of the full cost to the public purse of a settlement.

The estimates are necessarily very rough for two reasons. First, we do not know the details of the settlement—who is entitled to compensation, where the property is located, how much compensation is paid and, importantly, how it is paid. Second, in the absence of data for property prices in the north, where anecdotal evidence suggests prices rose very quickly in 2003-05 but at a much slower pace in 2006-07, we have taken property prices in the south as a proxy. Much of this chapter is drawn from previous work, notably Platis et al (2006).<sup>25</sup> Our approach is to take three previous estimates for compensation based on different versions of the Annan Plan: Annan I and II (Planning Bureau), Annan III (Matsis) and Annan V (Platis et al). We then add property price inflation (in the south) in the interim and take the median value of the three.

### Three different estimates

As explained in Platis et al (2006), the Planning Bureau estimated in 2003 that the value of the property that would be transferred to the Property Board under Annan I and II would be as much as CYP 10 billion in “current value”<sup>26</sup> terms. This would therefore be the amount that the Property Board would have to issue in bonds. Platis et al noted that the Planning Bureau’s approach used a rather high estimate for property prices inflation since 1963 of 10% per year. However, we take it as one of the reference points for our estimate.

<sup>25</sup> Platis, Orphanides and Mullen, *The Property Regime in a Cyprus Settlement*, PRIO Cyprus Centre 2006.

<sup>26</sup> Current value is an artificial price that takes the value of the property at the time of dispossession, assumes that the events between 1963 and 1974 did not occur and then adds property-price inflation in the interim using comparable locations as a reference.

Symeon Matsis, a former director of the Planning Bureau, disputed the Planning Bureau's growth rate for property prices and estimated property price inflation at 8% per year. Based on this he found in 2003 that the "current value" of the Property Board holdings would be CYP 5 billion,<sup>27</sup> later revised to CYP 6 billion.<sup>28</sup>

The amount of property that would be held by the Property Board was significantly lower in Annan V than in Annan II and III because more property in the areas outside territorial adjustment was entitled to full reinstatement. Platis et al estimated, using 2005 figures, that the Property Board would hold titles worth CYP 4.5 billion at "current value" based on Annan V. However, the amount that would have to be issued in the form of compensation bonds would be considerably lower, because only one-third of this compensation would be paid in the form of bonds. Two-thirds would be paid in the form of "property appreciation certificates", which would be similar to units in a real estate investment trust. These carried no liability for the government. This brought the compensation to be paid by the Property Board under Annan V down to only CYP 1.5 billion, making the Property Board extremely profitable in all but the most extreme of scenarios.<sup>29</sup>

However, since we do not know the details of the next settlement plan, we have been cautious and have assumed that the whole of the CYP 4.5 billion would be compensated in the form of long-term bonds.

### Property price inflation

As mentioned above, we have used price-growth in the southern part of Cyprus as a proxy, although we know that prices in the north rose very quickly in 2004-05<sup>30</sup> but moderated in 2006-07. In the absence of any official index on house prices in the southern part of Cyprus, we have taken the BuySell Home Price Index. This is a safer indication of actual movements in prices of resale ("second hand" homes) than estimates made by real estate developers, which inevitably focus attention on their own market, namely unbuilt land and new, higher-value property. The BuySell Index uses internationally accepted norms for measuring house prices that take into account factors such as changes in the quality of housing as well as re-sales.<sup>31</sup>

<sup>27</sup> Matsis (2004a), p. 13.

<sup>28</sup> Matsis (2004b), p. 6.

<sup>29</sup> Platis et al tested four scenarios using very cautious assumptions (land value in the north worth only 20% of the south despite strong evidence to the contrary, interest rate on bonds as a high 10% per year, the Property Board sells only 3% of its assets each year, it earns no income from rentals and has no subsidy from the government). Only in one of these (property prices rise much lower than historical trends for decades), did the Property Board become insolvent. Even then, it took 25 years before the Property Board became insolvent. Platis et al, pp. 47-52.

<sup>30</sup> Platis et al, pp. 39-46.

<sup>31</sup> The full methodology runs to 34 pages. "Asking Price and Transaction-Based Indices for the Cyprus Housing Market (Rebased)", Stelios Platis and Marios Nerouppos, October 2005, [www.mapsplatis.com](http://www.mapsplatis.com).

**Figure 22: BuySell Home Price Index**

BUYSELL HOME PRICE INDEX					
	2004	2005	2006	2007	2008 Jan-Sep
Index (Jan 2004=100)	107.22	109.47	116.65	139.06	145.23
% change	7.2	2.1	6.6	19.2	4.4

Sources: www.buysellcyprus.com; www.mapsplatis.com.

We applied the relevant years of the BuySell Home Price Index to each of the three estimates and assumed that all compensation is paid in the form of bonds rather than share-type instruments. This yielded rough estimates for the value of property to be compensated ranging from €10.2 billion to €24.8 billion. (Note that using units in a real estate investment trust for most of the compensation would cut the compensation bond issuance to €3.4 billion). For the purposes of estimating the federal government funding requirement, we shall take the mid-point between these three, namely €14.9 billion, which we round up to €15 billion (see Figure 23).

**Figure 23: Rough estimates for property compensation**

BUYSELL HOME PRICE INDEX			
	C£ mln	Plus house inflationsince relevant year	Total € mln
Annan I and II (Planning Bureau, 2003)	£10,000	£14,523	€ 24,814
Annan III (Matsis, 2003)	£6,000	£8,714	€ 14,888
Annan V without using appreciation certificates (Platis, 2005)	£4,500	£5,970	€ 10,200
<b>Median</b>	<b>£6,000</b>	<b>£8,714</b>	<b>€ 14,888</b>
<b>Memorandum item</b>			
Annan V with appreciation certificates (Platis, 2005)	£1,500	£1,990	€ 3,400

Sources: Platis et al 2005, The Property Regime in a Cyprus Settlement, PRIO 2006; BuySell Home Price Index 2004-08.

## Property bonds should not be confused with costs of reconstruction

Given the large size of the figure for property compensation, it is crucial to point out at this stage the difference between cost of reconstruction and the *liability* of property bonds. They are two very distinct items that should not be confused, even though they tend to be thrown together as a “cost” during discussions about a settlement. Spending on infrastructure and housing falls under classic budgetary capital expenditure and is only recovered in an indirect sense, by helping economic growth and therefore tax revenues.

Property bonds, on the other hand, are a *long-term liability* backed by *property assets*. The federal government or property agency hands over a promise to pay a long time in the future in return for something of probably rising value (property) which it can earn money on immediately, by selling property. Therefore the cost of compensation should be seen in terms of interest payments on the bonds rather than the total value of the bonds. Moreover, if the property settlement resembles anything like previous attempts, there will be no interest payments in the first few years, although we have not assumed this in our forecast.

Only if its liabilities *substantially* exceed its assets for many years will the property agency run into difficulties. This could happen if the price of property compensated is severely adjusted, in an unrealistic manner, to account for the events of 1963 to 1974, so that the government could never recover the amount issued even with rising property prices. We believe it unlikely that a property agency would make choices on compensation that would lead to its own insolvency.

## Chapter 7

# HOW CAN IT BE FINANCED?

**A**s detailed in Chapters 3 to 5, we estimate that the total public-sector bill for re-housing and infrastructure, assuming new housing is built on state land, will reach around €4.3 billion at contractor cost, and will be concentrated in the first five years. Adding 15% for consultants' fees brings the total to €5 billion. In Chapter 6, we further estimate (very roughly) that the federal government may have to issue up to €15 billion in property bonds, depending on the specifics of a settlement. It is important to emphasize again that the property bonds (liabilities) and spending on reconstruction and re-housing (costs) are two very distinct items that should not be confused. Property bonds will be paid for in the medium to long term by the sale of property that has been handed over in return for compensation. However, we assume for the purposes of caution that the interest payments on property bonds will be met by the federal budget and we therefore include those in our costs. If we assume that inflation in the euro-area eventually rises as a result of the current period of fiscal expansion, interest payments due on 30-year bonds could be 6% per year (or even higher). At 6% per year, the cost of property bond interest payments would come to €900 million per year.

Similarly, as outlined in Chapters 3 and 4, investment paid for by the private sector in buying or renovating homes should not be confused with public-sector expenditure on building homes and the associated infrastructure.

In this chapter we shall examine various potential sources of financing for public-sector infrastructure investment and property bond interest payments. In doing so, we shall also identify which sources might be appropriate for which kind of expenditure or liability. The various potential sources of financing are:

- Settlement-specific EU financing
- EU cohesion funds and structural funds (regular EU funding)
- Multilateral financing (World Bank/IMF)
- European Investment Bank (EIB)
- International banks (syndicated loans)
- Greek and Turkish commercial banks
- Local banks (domestic bond issues)
- Borrowing from international markets (international bond issues)
- Private-sector partnerships
- Bilateral assistance (grants or loans from a single country to Cyprus)

First, however, we shall consider the role that international guarantees might play in a post-settlement Cyprus.

## The role of guarantees

The role of guarantees in a post-settlement Cyprus will be an important factor in determining whether or not Cyprus can raise enough finance to meet its obligations in the first few years after a settlement. International guarantees play two important roles. First, by guaranteeing the loan they substantially reduce the risk that the lender will not receive his money back. Second, and perhaps more importantly in the case of the property bonds, by reducing the perceived risk they also reduce the interest rate paid on the debt. As of October 2008, the Republic of Cyprus had an investment-grade sovereign rating of AA- from Fitch Ratings, A1 from Moody's Investors Service, and A1 from Standard and Poor's, compared with AAA ratings for some of the international institutions we shall examine such as the World Bank, the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB). Rating agencies are likely to be rather more cautious in the future than in the past, given the criticism they have endured for their rating of assets containing US subprime mortgages. It might be safe to assume, therefore, that regardless of the constitutional set-up, the rating agencies will treat a reunited Cyprus as a new entity with a lower risk rating than in the past. The difference between, say, a single A rating and a triple A rating could be as high as 50 basis points in normal market conditions, which would be the equivalent of €75 million per year on a €15 billion debt. In today's market conditions the difference would be even greater.

## Special EU financing

EU financing will be important because, unlike other forms of financing, it comes in the form of grants, rather than loans. It therefore reduces the overall debt that must be incurred and the interest payments on that debt. The precedent of the Northern Ireland peace process suggests that EU member states may be willing to grant special additional assistance to a reunited Cyprus to support the peace process. The "PEACE" Programme for Northern Ireland was allocated 0.1% of the EU budget of more than 304 billion at 2004 prices.<sup>32</sup> This implies a budget of €308 million, although from the legislation appears that €200 million was actually allocated.<sup>33</sup> In 2004 €200 million was the equivalent of 0.5% of Northern Ireland's GDP.<sup>34</sup> If one assumes that a reunited Cyprus might attract the same proportion of GDP, one might expect special peace funding of €90.5 million for Cyprus. This is considerably lower than the €259 million that was initially allocated in the event of a solution but since this amount is

<sup>32</sup> *Cohesion Policy 2007-13 Guide*, European Union Regional Policy, January 2007, page 24. The actual figure is cited to three decimal places €308.041 billion (three hundred and eight billion forty-one million euros).

<sup>33</sup> Council Regulation (EC) No 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999, Annex II, Paragraph 22, reproduced in Cohesion Policy Report, page 88.

<sup>34</sup> According to data from the Eurostat database, Northern Ireland's GDP at current prices in 2004 was €4,049.3 million, or just over €4 billion.

currently being spent in the north, we have been cautious and assumed that special additional funding in the future will be lower. Nevertheless, one could also argue that, since income per capita in Cyprus is slightly lower than in Northern Ireland,<sup>35</sup> Cyprus should qualify for a higher proportion of its GDP in special EU financing.

**Figure 24: Potential EU peace funding for Cyprus**

<b>POTENTIAL EU PEACE FUNDING FOR CYPRUS</b>	
<b>Northern Ireland</b>	
Northern Ireland GDP in 2004 (€ million)	40,494
Peace funding (€ million)	200
% of GDP	0.5
<b>Cyprus</b>	
Cyprus: south GDP in 2007 (€ million)	15,566
Cyprus: north GDP in 2007 (€ million)	2,528
<b>Total Cyprus GDP in 2007</b>	<b>18,094</b>
0.5% of GDP (ie, assumed potential peace fund in € million)	90.5

Sources: Cystat, SPO, Eurostat.

## Standard EU financing

### How can Cyprus maximize EU funding?

There are various ways in which a reunited Cyprus could access regular EU funding under what is now called “cohesion policy”. EU cohesion policy funding has been overhauled and simplified for the current funding period of 2007-13, although it remains rather complex in practice. As mentioned above, the budget amounts to just over €308 billion at 2004 prices. Cohesion policy now has three broad objectives: the “Convergence objective” (formerly Objective 1), the “Regional competitiveness and employment objective” and the “European territorial cooperation objective”. Currently, Cyprus qualifies for €640 million in cohesion policy financing.<sup>36</sup> This is lower both in absolute terms and as a proportion of GDP than Malta. As explained below, this is essentially because the southern part of Cyprus is currently too wealthy to qualify for the most lucrative form of financing, namely the “convergence objective” under the broad convergence heading (see Figure 25).

<sup>35</sup> The latest available Eurostat data show GDP per inhabitant at purchasing power standard in 2005 of €20,753 for Cyprus (south) and €21,726 for Northern Ireland.

<sup>36</sup> Cohesion Policy Guide, p. 25.



**Figure 25: EU available funding today**

EU cohesion policy funds in 2007-13, EUR million	Convergence			Regional competitiveness and employment		European territorial cooperation	Total
	Cohesion Fund	Convergence	Phasing out	Phasing in	Regional competitiveness and employment		
Cyprus (south)	213	0	0	399	0	28	640
Malta	284	556	0	0	0	15	855
Slovenia	1,412	2,689	0	0	0	104	4,205
Lithuania	2,305	4,470	0	0	0	109	6,885

Source: EU Cohesion Policy Guide page 25.

### Cyprus's current eligibility

The Convergence objective is by far the largest fund. It accounts for 85.1% of the cohesion policy funding, or around €251.1 billion at 2004 prices. It “aims to stimulate growth and employment in the least developed regions” and “targets the least well-developed Member States and regions”.<sup>37</sup> As a *region*, Cyprus is too wealthy for European Social Fund (ESF) and European Regional Development Fund (ERDF) financing under the convergence objective.<sup>38</sup> As a *member state*, however, it is eligible for a small amount of Cohesion Fund financing, which amounts to €213 million.<sup>39</sup>

The Regional competitiveness and employment objective is similar to the former “Objective 2”. It accounts for 16.1% of cohesion policy funding, or around €49.6 billion at 2004 prices. In funding terms it is essentially the ‘booby prize’ for regions that do not qualify for the higher funding under the convergence objective. It focuses on competitiveness and employment.<sup>40</sup> As a *region*, Cyprus qualifies for the Regional competitiveness and employment objective. The funding available is €399 million.

The European territorial cooperation objective is the smallest of the three funds, accounting for only 2.5% of cohesion policy financing, or around €7.7 billion at 2004 prices. It aims to reinforce cross-border cooperation.<sup>41</sup> Cyprus is currently eligible for ERDF financing under this objective and has available funding of €28 million. Note that cooperation with non-member states is not covered by this fund but by two others: European Neighbourhood and Partnership Instrument (ENPI) and the Instrument for Pre-Accession Assistance (IPA). There is also a fourth fund: the Instrument for Pre-Accession Assistance (IPA).

<sup>37</sup> Cohesion Policy Guide, p. 13.

<sup>38</sup> Cohesion Policy Guide, p. 16.

<sup>39</sup> Cohesion Policy Guide, pp. 18 and 25.

<sup>40</sup> Cohesion Policy Guide, p. 13.

<sup>41</sup> Cohesion Policy Guide, p. 20.

**Figure 26: Total EU funds available under each objective**

TOTAL EU FUNDS AVAILABLE UNDER EACH OBJECTIVE			
Objectives	Total EU funding € bn	Per capita income eligibility (a)	Cyprus currently qualifies?
<b>1. Convergence objective</b>	251.1		
Cohesion Fund	-	MS GNI <90%	Yes as a MS
European Social Fund (ESF)	-	Reg GDP <75%	No
European Regional Development Fund (ERDF)	-	Reg GDP <75%	No
<b>2. Regional competitiveness and employment objective</b>	49.6		
European Social Fund (ESF)	-	MS GNI <90%	Yes as a region
European Regional Development Fund (ERDF)	-	MS GNI <90%	Yes as a region
<b>3. European territorial cooperation objective</b>	7.7		
European Regional Development Fund (ERDF)	7.7	MS GNI <90%	Yes as a region

(a) Gross national income (GNI) or Gross domestic product (GDP) per capita at PPS as a proportion of the EU25 average. MA=Member state; Reg = region.

Source: EU Cohesion Policy Guide, 2007-13.

### How can a reunited Cyprus maximize EU funding?

To qualify for funding under each of these objectives, certain criteria must be met. At present, Cyprus is defined for EU funding purposes as one statistical region. Greece, on the other hand, has 13, some of which are quite small, such as the Ionian Islands.<sup>42</sup> Moreover, with the exception of Luxembourg Cyprus is the only country that does not have any NUTS 3 regions (Malta has two, Estonia has five, Greece has 51 and Germany has 439.) Therefore all of Cyprus is simultaneously a NUTS 1, NUTS 2 and NUTS 3 region. As will become clear in this section, a reunited Cyprus could attract considerably more funds from the EU if it were to use the opportunity of a settlement to re-define itself as more than one statistical region for EU funding purposes.

Eligibility for funding is based on two calculations: gross domestic product (GDP) per head and gross national income (GNI) per head. Both are measured at purchasing power standard (PPS). PPS, or PPP as it is more commonly known, is an adjustment made to reflect differences in the cost of living. It reflects that fact that €100 buys more in some countries (normally poorer ones) than others.

<sup>42</sup> Nomenclature of Territorial Units for Statistics (NUTS) and the statistical regions of Europe, [http://ec.europa.eu/eurostat/ramon/nuts/codelist\\_en.cfm?list=nuts](http://ec.europa.eu/eurostat/ramon/nuts/codelist_en.cfm?list=nuts).

### Measuring per capita income at PPS in northern Cyprus

A NUTS 2 region is eligible for the highest form of EU funding (the Convergence objective ESF and ERDF funds) if GDP per head at PPS was less than 75% of the EU25 in 2000-02.<sup>43</sup> We shall now see if Cyprus would qualify for this funding as a reunited island. To do this, we must first calculate GDP per capita at PPS for the northern part of Cyprus.

Eurostat produces PPS data for all EU members as well as other countries including Turkey. However, neither Eurostat nor the Turkish Cypriot statistical service produces PPS data for northern Cyprus, therefore we must make an estimate. Given that both Turkey and northern Cyprus use the Turkish lira, we have assumed that the difference in northern Cyprus between GDP per capita at PPS and GDP per capita at market prices is the same as it is for Turkey (where PPS is approximately 1.8 bigger than the market-price number). Since we know GDP per capita at market prices in northern Cyprus, we were able to calculate GDP per capita at PPS using this formula. We cross-checked our results against the World Bank report and the findings were compatible.<sup>44</sup>

**Figure 27: GDP per head at PPS in northern Cyprus**

GDP PER HEAD AT PPS IN NORTHERN CYPRUS								
GDP per head at PPS (EUR)	2000	2001	2002	2003	2004	2005	2006	2007
EU 25 GDP per head at PPS	19,900	20,700	21,300	21,600	22,500	23,400	24,500	25,700
Turkey GDP per head at PPS	7,600	7,000	7,000	7,000	8,100	8,800	9,700	10,500
Cyprus south GDP per head at PPS	16,900	18,000	18,300	18,400	19,600	20,800	21,700	23,200
Cyprus north GDP per head at PPS	9,454	10,156	9,270	9,490	11,686	13,576	14,417	15,171
All Cyprus GDP per head at PPS	15,178	16,165	16,188	16,375	17,761	19,137	19,877	21,154
North as % of south	56	56	51	52	60	65	66	65

GDP per head at PPS as % of EU25	2000	2001	2002	2003	2004	2005	2006	2007
EU 25 GDP per head at PPS as % of EU25	100	100	100	100	100	100	100	100
Turkey GDP per head at PPS as % of EU25	38	34	33	32	36	38	40	41
Cyprus south GDP per head at PPS as % of EU25	85	87	86	85	87	89	89	90
Cyprus north GDP per head at PPS as % of EU 25	48	49	44	44	52	58	59	59
<b>All Cyprus GDP per head at PPS as % of EU 25</b>	<b>76</b>	<b>78</b>	<b>76</b>	<b>76</b>	<b>79</b>	<b>82</b>	<b>81</b>	<b>82</b>

<sup>43</sup> Council Regulation (EC) No 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999, Article 5(2), *Official Journal*, L210/36.

<sup>44</sup> The World Bank found that GNI per capita at PPS in the north, using SPO data (as we did), was 67% of the south in 2006. Our calculation shows 69% of the south in the same year.

<b>Memo item: GDP per head at EUR</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
EU 25 GDP per head at EUR	20,200	20,900	21,600	21,800	22,800	23,600	24,800	26,000
Turkey GDP her head at EUR	4,300	3,200	3,500	3,800	4,400	5,400	5,700	6,500
Cyprus south GDP per head at EUR	14,500	15,400	15,700	16,300	17,200	18,000	19,000	19,900
Cyprus north GDP per head at EUR	5,478	4,861	4,618	5,149	6,301	8,227	8,488	9,601

Note: GDP per head at PPS must be less than 75% of the EU average in 2000-02 to qualify for maximum EU funding.

Sources: Eurostat; State Planning Organization and authors' estimates for Cyprus north.

As we can see from Figure 27, in 2000-02, GDP per capita at PPS as a percentage of the EU25 average was 86% on average for the southern part of Cyprus, 47% for the northern part of Cyprus and 77% for a reunited Cyprus. As noted above and demonstrated in the table, the southern part of Cyprus currently does not qualify for this highest form of EU funding. However, even as a reunited island, if Cyprus remained as one statistical region, its GDP per capita at PPS would just exceed 75% of the EU25 average. It would therefore still fail to qualify for the most lucrative form of funding even after a settlement. Moreover, if the EU authorities decided to base the calculation not on 2000-02 but on later years, it would definitely not qualify at all.

However, if Cyprus were split into at least two regions, the northern part of Cyprus would definitely qualify, since its GDP per capita is considerably below 75% of the total. Therefore, if Cyprus took the opportunity of a settlement to divide itself for funding purposes into at least two statistical regions, it could attract substantial EU funds, the value of which we estimate below. (Such an adjustment might also need an adjustment to EU rules on the size of NUTS regions, as the rules are currently heavily biased against small countries.) As we shall see, this kind of adjustment would lift a large burden from the Cypriot taxpayer in the early years of the settlement.

A member state is eligible for the smaller Regional competitiveness and employment and Territorial cooperation funding if GNI per head at PPS was less than 90% of the EU25 average in 2001-03.<sup>45</sup> Using the same methodology as above, we see that Cyprus would qualify for this funding regardless of how it was divided up. As a divided island, the southern part of Cyprus might breach the 90% threshold in the next funding period 2014-2020 but as a reunited island there is little doubt that it would continue to qualify.

<sup>45</sup> Council Regulation (EC) No 1083/2006, Article 5(2).

**Table 28: GNI per head at PPS in northern Cyprus**

GNI PER HEAD AT PPS IN NORTHERN CYPRUS								
GNI per head at PPS (EUR)	2000	2001	2002	2003	2004	2005	2006	2007
EU 25 GNI per head at PPS	19,900	20,600	21,200	21,500	22,500	23,400	24,500	25,700
Turkey GNI per head at PPS	5,700	5,200	5,500	5,500	6,200	6,600	7,300	7,900
Cyprus south GNI per head at PPS	15,800	17,000	17,700	18,000	18,800	20,000	20,900	22,400
Cyprus north GNI per head at PPS	9,474	10,168	9,342	9,640	11,991	12,995	14,340	14,224
All Cyprus GNI per head at PPS	14,335	15,417	15,738	16,095	17,225	18,410	19,296	20,313
North as % of south	60	60	53	54	64	65	69	63

GNI per head at PPS as % of EU25	2000	2001	2002	2003	2004	2005	2006	2007
EU 25 GNI per head at PPS as % of EU25	100	100	100	100	100	100	100	100
Turkey GNI per head at PPS as % of EU25	29	25	26	26	28	28	30	31
Cyprus south GNI per head at PPS as % of EU25	79	83	83	84	84	85	85	87
Cyprus north GNI per head at PPS as % of EU 25	48	49	44	45	53	56	59	55
All Cyprus GNI per head at PPS as % of EU 25	72	75	74	75	77	79	79	79

Memo item: GNI per head at EUR	2000	2001	2002	2003	2004	2005	2006	2007
EU 25 GNI per head at EUR	20,100	20,800	21,500	21,800	22,800	23,600	24,800	26,000
Turkey GNI her head at EUR	3,200	2,400	2,700	3,000	3,400	4,000	4,300	4,900
Cyprus south GNI per head at EUR	13,600	14,600	15,200	15,900	16,500	17,400	18,300	19,200
Cyprus north GNI per head at EUR	5,490	4,867	4,654	5,231	6,466	7,875	8,443	9,002

Note: GNI per head at PPS must be less than 90% of the EU average in 2000-02 to qualify for funding.

Sources: Eurostat; State Planning Organization and authors' estimates for Cyprus north.

### An extra €600 million could be available

We now turn to see how much funding could be available if Cyprus redefined itself for funding purposes as at least two statistical regions. Here it is worth noting that we made attempts to contact the European Commission to see what might be possible. However, officials are under a strict code of silence on Cyprus settlement matters and were unable to give us any information at all.<sup>46</sup> We therefore based our estimates on economies of similar income levels

<sup>46</sup> This is also why we remain uncertain about the size allowed for a NUTS region. We note only that Malta, with a small population, has two regions.

to northern Cyprus. On the basis of our estimates, GDP per capita at PPS in the northern part of Cyprus is around €15,000, close to that of Lithuania. Lithuania qualifies for €6,885 million of funding in 2007-13, which is a staggering 24.6% of annual GDP at current prices in 2007 (in 2004 it was as high as 38% of GDP). This is the equivalent of around 5.4% of GDP per year. If we assume that northern Cyprus as a NUTS 2 region could qualify for the same proportion of GDP as Lithuania, we find that it would qualify for €600 million in Convergence objective financing that is currently unavailable to Cyprus. That would double the amount of EU financing available to Cyprus on a regular basis, without adding the €90 million which could come as a special peace package. More importantly, this would be in the form of grants, not loans, so would not be a burden on the taxpayer.

**Figure 29: EU funding potential**

EU cohesion policy funds in 2007-13, EUR million	Convergence			Regional competitiveness and employment		European territorial cooperation	Total
	Cohesion Fund	Convergence	Phasing out	Phasing in	Regional competitiveness and employment		
Cyprus (south) today	213	0	0	399	0	28	640
Potential Cyprus (north) (a)	0	600	0	0	90	0	690
Reunited Cyprus potential	213	600	0	399	90	28	1,330

(a) Only if Cyprus is redefined as at least two statistical regions.

Source: EU Cohesion Policy Guide page 25 and authors' estimates based on Lithuania.

## Multilateral financing

### International Monetary Fund (IMF)

The classic multilateral lenders are the World Bank, the International Monetary Fund (IMF) and regional development banks, such as the European Bank for Reconstruction and Development (EBRD), the Council of Europe Development Bank (CEB), the Asian Development Bank (ADB), the African Development Bank (AfDB) and the Inter-American Development Bank (IADB). The European Investment Bank (EIB), while not a development bank as such, is also considered a multilateral lender. Multilateral financial institutions can draw on very large resources because in most cases they are financed by the contributions of a large number of member countries and can borrow on international markets. A recent case in point is Hungary, which in October 2008 was offered total lending worth \$25.1 billion in a joint loan from the IMF (\$15.7 billion), the European Union (\$8.1 billion) and the World Bank (\$1.3 billion) in response to a severe balance-of-payments crisis.<sup>47</sup> However, such levels of funding are rare, crisis-driven and therefore

<sup>47</sup> "IMF, EU agree to \$25.1 billion rescue for Hungary", Lesley Wroughton, Reuters, 29 October 2008.

not normally given for long-term projects. The Republic of Cyprus has no debt with the IMF, which specializes in balance-of-payments financing, and as a eurozone member it is far less likely than non-eurozone countries to suffer a balance-of-payments crisis. We therefore would not expect any funding from the IMF. However, it is possible that a stand-by arrangement could be agreed, whereby Cyprus would draw on funds only if needed. (In May 2008 Turkey completed such a standby arrangement with the IMF that had lasted for three years.) This would reduce risk perceptions among potential lenders and therefore make other forms of financing easier and cheaper.

### **World Bank**

World Bank financing is normally reserved for less developed markets. Within Europe, the wealthiest countries which have World Bank loans<sup>48</sup> are Slovakia, with a gross national income (GNI) per capita in 2007 of \$10,460 (World Bank Atlas methodology), and Croatia, with \$10,460. This is less than half of the southern part of Cyprus, which has a GNI per capita of \$24,940 using the same methodology.<sup>49</sup> Cyprus is not even listed among the countries in Europe with which the World Bank has operations.

However, Cyprus could qualify for World Bank assistance under the World Bank's policies for development cooperation and conflict. In this area the World Bank may give "exceptional financial assistance" to "help a country emerging from conflict meet its transitional financial needs in a timely manner".<sup>50</sup> This could be in the form of a very long-term loan. We also know from previous negotiations that the UN was in discussions with the World Bank about guarantees for the property compensation bonds.<sup>51</sup> A World Bank full or part guarantee would increase the attractiveness of any government bond issue. In addition, a multilateral guarantee would lower perceived risk and therefore reduce the interest rate that would be payable by the borrower.

### **The EIB and CEB**

At the time of writing the EBRD concentrated only on the former Soviet Union countries, therefore in the case of Cyprus, the EIB is more likely to be the agent. The Republic of Cyprus has borrowed from the EIB many times over the past three decades, notably for water and sewerage projects but also for other infrastructure projects such as transport, electricity, health and education. Some of this lending has been to match funding that comes from the European Commission (see section on EU financing above). Since the first loan for the Electricity Authority of Cyprus in 1981, the EIB has lent € 1.6 billion in long-term financing to Cyprus, of which € 1.4 billion has been in the past ten years and € 805 million in the past five.<sup>52</sup>

<sup>48</sup> World Bank Operation Manual, Operational Policies, OP 3.10.

<sup>49</sup> World Bank, <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf>.

<sup>50</sup> World Bank Operation Manual, Development Cooperation and Conflict, OP 2.30.

<sup>51</sup> "We are currently in talks with the World Bank to have them guarantee these bonds," translation from interview with UN official Didier Pfirter with Lefteris Adelinis in *Politis*, 4 April 2004.

<sup>52</sup> <http://www.eib.org/projects/loans/regions/european-union/cy.htm>.

The CEB could also play a similar role to that of the European Investment Bank, although it relies for funds on international markets rather than deposits of members, which makes it slightly less ideal in the current circumstances. The CEB has lent money to Cyprus many times in the past. In 2007 alone, it approved projects in Cyprus worth €122.5 million and disbursed €47.1 million.<sup>53</sup> As of December 2007 the Republic of Cyprus owed €251.7m to the CEB in outstanding loans.<sup>54</sup>

**Figure 30: EIB lending since 1982**

EIB LENDING SINCE 1982	
Period	EUR million
2003-2007	850
1998-2002	550
1993-1997	148
1988-1992	20
1983-1987	34
1981-1982	24
<b>Total loans</b>	<b>1,626</b>

Source: European Investment Bank.

We assume that the EIB, which enjoys a triple-A rating and is not affected by the global financial crisis, would be willing to lend rather more in the future than it has in the past in order to support a solution. Our discussions with various bankers indicate that together with the CEB it could lend €2 billion in the first five years after a solution, or €400 million per year. In practice the lending is likely to be concentrated into one or two debt issues, rather than spread evenly over five years.

**Figure 31: Potential EIB and CEB lending**

POTENTIAL EIB AND CEB LENDING (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
EIB and CEB	400	400	400	400	400	2,000

Source: Authors' estimates.

## Borrowing from international banks (syndicated loans)

EIB lending can be made all the more potent when combined with other commercial banks in a syndicated loan. Indeed, in the case of sovereign (country) borrowers, commercial banks are far more likely to lend if a multilateral institution is also involved, since the multilateral institution will often undertake the role of due diligence, checking, inter alia, whether the country is able

<sup>53</sup> [www.coebank.org](http://www.coebank.org).

<sup>54</sup> Central Bank of Cyprus.



to repay the loan. EIB lending would also bring in banks that specialize in infrastructure loans to sovereigns or sub-sovereigns (in the case of Cyprus, constituent states). Two such specialist banks are already present in Cyprus. As the EIB specializes in lending for infrastructure projects, syndicated loans with the EIB as a partner might be an appropriate vehicle for financing the €5 billion in public-sector infrastructure and re-housing costs which we estimated in Chapters 3 to 5. However, given the severe problems currently being experienced by the global banking sector, we have been very cautious in our forecast for syndicated loans. The number of large banks has shrunk and banks will spend many years cleaning up their balances sheets, which will make them more cautious than usual about lending. We have therefore assumed that banks will lend only one-third of the amount lent by the EIB, or just €250 million spread over five years.

**Figure 32: Potential syndicated loans lending**

POTENTIAL SYNDICATED LOANS LENDING (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
Syndicated loans	50	50	50	50	50	250

Source: Authors' estimates.

## Greek and Turkish banks

In the case of Cyprus, there is another interesting option. During our research into commercial bank lending and international bond issues,<sup>55</sup> we were informed that in two separate cases in 2007, syndicated loans being organized by large international investment banks were out-bid by competition from highly capitalized local banks which were able to offer better terms. In one case the consortium of lenders was a group of Turkish banks and in the other case the consortium of lenders was a group of Greek banks. A key reason why these banks were able to outbid the largest investment banks in the world, we were informed, was because they were highly liquid thanks to their large deposit bases. (Traditionally, large investment banks have not taken deposits, although this is now beginning to change.) Although Turkish and Greek banks are by no means immune to the international crisis, as of October 2008 Turkish and Greek banks were still well capitalized. Turkish banks had an average capital adequacy ratio of just under 20% in October 2008, much higher than the target of 12% and the legal limit of 8%.<sup>56</sup> Greek banks were also well capitalized in the same month.<sup>57</sup> A Greek-Turkish loan for infrastructure

<sup>55</sup> We are very grateful to the investment banker who pointed out this possibility, which would otherwise have passed us by.

<sup>56</sup> Source: Turkey Senior Analyst at the Economist Intelligence Unit and presentation by the Governor of the Central Bank of Turkey, Durmuş Yılmaz, to the IMF delegation in October 2008: <http://www.tcmb.gov.tr/yeni/eng/index.html>.

<sup>57</sup> The capital adequacy ratio in September 2007 was 13.3% (Monetary Policy Report, February 2008) and the Central Bank Governor, George Provopoulos, told the Greek government on 8 October 2008 that more than 90% of bank lending is financed by deposits and that on average the capital adequacy of Greek banks has been significantly less affected than most banks in other countries, [http://www.bankofgreece.gr/en/announcements/text\\_release.asp?releid=1682](http://www.bankofgreece.gr/en/announcements/text_release.asp?releid=1682).

investment could therefore act as a substitute for the classic syndicated loan, should there be insufficient demand from the traditional investment banks (see box). Moreover, a Greece-Turkey loan would add a great deal of value in political terms, as it would demonstrate to those who might be sceptical that both “motherlands” have a financial incentive to help the settlement work. We estimate that a reunited Cyprus could borrow up to €1.25 billion from Greek and Turkish commercial banks. As above, this lending could be concentrated in one or two tranches rather than spread evenly over five years.

**Figure 33: Potential Greek and Turkish lending**

POTENTIAL GREEK AND TURKISH LENDING (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
Greek and Turkish banks	250	250	250	250	250	1,250

Source: Authors' estimates.

## The domestic market

One should not forget that, like the Greek and Turkish banks, Cypriot banks are also well capitalized, therefore the federal government will also have considerable domestic resources at home on which it can rely. As of September 2008 banks in the southern part of Cyprus had bank deposits of €51.9 billion (well over five times annual GDP) and a loan to deposit ratio of 91.8%.<sup>58</sup> In the northern part of Cyprus, it is even lower, at 55% in 2007.<sup>59</sup> The local commercial banks in the south are willing buyers of government debt. In 2004-07 they bought around €7 billion in government issued paper of at least 52 weeks maturity.<sup>60</sup> Thus, if the government chose to issue debt to local banks in order to finance infrastructure development, it would probably find some willing buyers. We can estimate how much the government might be able to borrow on an annual basis from local banks by looking at recent history in the southern part of Cyprus. At its peak in 2004, when the government deficit was high, the government borrowed €2.5 billion (excluding 14-day Treasury bills) in local currency in a single year. In 2007, a year in which the budget ended in surplus, it borrowed just over €1 billion. This indicates that there could be €1.5 billion annual “spare lending capacity” at the domestic banks. For the sake of caution, however, and given the current environment, we have assumed that local banks could lend one-third of this amount, or an additional €500 million per year to the government for its re-housing and infrastructure needs. This would probably be evenly spread over the five years.

<sup>58</sup> Central Bank of Cyprus, *Monetary and Financial Statistics*, September 2008.

<sup>59</sup> <http://www.kktcmb.trnc.net>.

<sup>60</sup> Calculated from Central Bank of Cyprus, *Monetary and Financial Statistics*, September 2008. Information on 14-day Treasury bills is not included.

**Figure 34: Potential local bank lending**

POTENTIAL LOCAL BANK LENDING (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
Local banks	500	500	500	500	500	2,500

Source: Authors' estimates.

### Note on reconstruction bonds

Another reason why we have kept the local bank lending figure low is that local banks could also act as important intermediaries in a property bond market, which would have the added political benefit of increasing the attractiveness of property bonds to refugees. If the settlement of the property issue resembles previous attempts at a solution, a large proportion of property compensation will be paid in the form of long-term bonds payable in 20 to 30 years' time. However, holders of such bonds are likely to want to liquidate them (turn them into cash) immediately. This can be done if there is an active secondary market. The best actors in a secondary market are those with plenty of liquidity, namely banks and other financial institutions.

While the ability to “cash in” one's compensation will be important from a political and social perspective, this could cause macroeconomic imbalances if all property bonds were liquidated at once, as this would inject too much liquidity into the small economy in a short space of time. One way the federal government could address this—could “mop up” liquidity—is through reconstruction bonds.

Liquidity that is created through the sale of property bonds could be quickly reabsorbed if the government offered special reconstruction bonds at rates that are at least as good as yields on the Government Registered Development Stock that are issued occasionally in the south. Reconstruction bonds could be sold on local and international markets and again would be more attractive if a secondary market were made possible.

Reconstruction bonds would therefore achieve several objectives.

- They would raise easily available and significant finance for the required reconstruction effort.
- If combined with a secondary market for property bonds, they would allow holders of the property bonds to liquidate their bonds early after the settlement, so that they do not “have to wait to be paid”. This would add a social justice element to the compensation arrangements.
- They would help to absorb liquidity and therefore prevent a sharp rise of inflation that could ensue if the property bonds were liquidated all at once (or in large batches).

Reconstruction bonds are included in our estimates for domestic borrowing above.

## International bond issues

Governments across the world frequently turn to international markets for their long-term financing needs in the form of bond issues. Bonds issues tend to be bought by pension and insurances funds, whereas investment banks tend to get involved in syndicated loans. Bonds are essentially a promise to the creditor to pay back the original amount borrowed, as well as a promise to pay regular interest payments at a set interest rate for a fixed number of years. Bonds may also be sold to other buyers. In fact, it is the secondary market for bonds—the ability to sell them quickly—which makes them “liquid” and therefore attractive to buyers. This will be particularly true for Cyprus, since the secondary market for locally issued debt in the southern part of Cyprus remains almost non-existent and the northern part of Cyprus does not issue any bonds of its own.

The interest rate paid on the bond depends on a country’s perceived creditworthiness, which is normally measured with reference to international rating agencies; its creditworthiness relative to a benchmark (in Europe, this is normally the rate at which long-term bonds issued by Germany are traded on the secondary market); inflation expectations for the currency in which the bond is issued; and the prevailing conditions on international credit markets.

To date the southern part of Cyprus, which has had a steady currency and a good record of economic growth, has had little difficulty in borrowing on international markets when it chooses to. The last time was in July 2004, two months after EU membership, when it issued a ten-year €500 million Eurobond at an interest rate of 4.375%. This was a lower interest rate than in February 2002, when it issued a ten-year Eurobond for €550 million at an interest rate of 5.5%. Since then, the southern part of Cyprus has joined the eurozone, which eliminates any currency risk involved in euro borrowing. Under normal circumstances, therefore, Cyprus could expect to borrow at an even lower rate than in July 2004. However, given the crisis on global financial markets, this may no longer be the case. Market indicators suggest that the interest rate which Cyprus would have to pay on long-term loans could be a little higher today, owing to the higher cost of borrowing globally and inflation expectations. According to European Central Bank data, the harmonised long-term interest rate for Cyprus in September 2008 was 4.60%, compared with 4.09% for Germany.<sup>61</sup>

It is important, therefore, to assess the potential impact on a reunited Cyprus’s borrowing capabilities of the current crisis in global financial markets (see box). As noted above, between 2002 and 2004 the southern part of Cyprus borrowed just over €1 billion, or an average of around €330 million per year in the form of international bonds issues. On the assumption that the international bond market will have mostly recovered by the time Cyprus needs to borrow money in 2010, but will not be as buoyant as the first half of this decade, we assume that a reunited Cyprus borrow €250 million per year, or €1.25 billion in the first five years. In practice Cyprus could issue small amounts at the beginning and build up to larger amounts as bonds markets are comfortable that the federal republic can meet its obligations.

<sup>61</sup> ECB website <http://www.ecb.eu/stats/money/long/html/index.en.html>. However, owing to the absence of a secondary bond market in Cyprus, the ECB takes its rate for Cyprus from the primary issue of ten-year bonds, the last of which was in September 2007. In other words, to discover the market interest rate for a ten-year bond, one would have to issue one.

## Potential impact of the financial crisis

**Current conditions.** The main immediate problem is that it is currently extremely difficult for any country, however solvent, to borrow on international markets. At the time of writing,<sup>62</sup> the authors were told privately that Austria, Belgium and Spain had all postponed international bond issues. However, this is very much a short-term problem. Even if conditions do not return for many years to the easy credit days of early 2007, borrowing should gradually become easier over time. Therefore, if we assume that a settlement will not be agreed upon before mid-2009, that the coming into force of the agreement takes at least another six months and that, as in previous plans, there may be some delay in implementing measures relating to property and infrastructure, it could be at least two years from now before the federal government will need to issue its first bonds to finance property and infrastructure. By then it is reasonable to assume that the worst of the financial crisis will be over. (Indeed, if the worst is not over by then, then we would have to re-visit all of the assumptions in this report).

**The attitude of rating agencies.** Regardless of the legal status of the federal republic, the international rating agencies could decide to treat Cyprus as a new state, which requires its risk rating to be reviewed from scratch. This has probably become more likely since the rating agencies have come under heavy criticism as a result of the global financial crisis, thus making them more risk-averse. At present, because of the political situation, the northern part of Cyprus is an unknown entity for the international community.<sup>63</sup> For this reason, agencies may be reluctant to issue a rating at all until they or institutions such as the European Central Bank or International Monetary Fund have conducted a thorough assessment. At best, this could delay Cyprus's ability to issue international bonds and thus fund the solution. However, as above, the impact will be moderated by the fact that it could be two years before Cyprus needs to borrow, giving time for such assessments to be made. At worst, it could result in a lower rating, which would mean that Cyprus would have to pay higher interest rates and might be able to borrow less.

**The relative risk of other emerging markets.** Cyprus, because of its size, history and the political/security risk implied by the political situation, is classed as an emerging market by financial institutions. This could actually act as an advantage in the current circumstances according to our information, because its risk rating is lower than most emerging markets.<sup>64</sup> Banks have become extremely risk averse and are unwilling to lend to the riskier emerging markets. Cyprus may now "appear on their radar", we were informed, as a less risky opportunity.

<sup>62</sup> This section was written at the end of October 2008.

<sup>63</sup> An excellent comprehensive report was prepared by the World Bank, but perhaps for political reasons on one or other side of the divide, copies of it in any format are hard to come by: *Sustainability and Sources of Economic Growth in the Northern Part of Cyprus*, World Bank, June 2006.

<sup>64</sup> Interview with an institution that normally lends to higher risk sovereigns.

**The number of investment banks.** As mentioned above, one important consideration as regards syndicated loans is the reduction in the number of large commercial banks since the closure or merger of many during the crisis of 2008. According to our information, a loan of round €3 billion might need a consortium of as many as 30 banks. After the financial turmoil of 2008, there are now fewer banks and those that remain will be lending less. This makes the possible alternative of Turkish and Greek banks all the more interesting.

**Conclusion.** In sum, Cyprus is fortunate that it does not have to turn to international markets immediately. However, the repercussions of the current crisis are expected to be felt for a long time and banks and rating agencies will be more cautious in future. This will make international assistance, either in the form of guarantees, or in the form of loans, all the more important.

**Figure 35: Potential international bond issues**

POTENTIAL INTERNATIONAL BOND ISSUES (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
International bond issues	250	250	250	250	250	1,250

Source: Authors' estimates.

## Public-private partnerships

One should not forget the potential of public-private partnerships (PPPs), in which the private sector would raise most of the financing. The input from the private sector will depend a great deal on financial conditions at the time. But if the conditions are right, it could serve as a politically more acceptable way of financing the solution than budgetary financing. PPPs could also give an important role to local construction and development companies. We make a modest estimate that PPPs could bring in additional private financing of some €150 million per year or €750 million in the first five years.

**Figure 36: Potential inflows from public-private partnerships**

POTENTIAL INFLOWS FROM PUBLIC-PRIVATE PARTNERSHIPS (EUR MILLION)						
	2010	2011	2012	2013	2014	Total
Private-sector inflows from public-private partnerships	150	150	150	150	150	750

Source: Authors' estimates.

## Chapter 8

# THE INTERNATIONAL ASSISTANCE REQUIREMENT

According to our estimates, the public sector in a reunited Cyprus would need up to €5 billion in the first five years for infrastructure and re-housing investment. As calculated above, Cyprus could be eligible for €600 million in EU funding, as long as it redefines itself as at least two statistical regions. A further €90.5 million could come from special EU peace financing. This funding will be in the form of grants, not loans. After subtracting EU financing, therefore, we are left with a net public-sector borrowing requirement of €4.3 billion, or €862 million per year. We have added 5% per year of interest payments to this requirement, which amounts to €43 million per year.

We have also assumed that the state will pay €4.5 billion in interest payments on property bonds (the biggest item) in the first five years. As argued in Chapter 6, we believe that in practice the property bonds could be self-financing through the sale of properties handed over in return for compensation. In addition, it may be that the state does not pay any interest payments for the first five years. However, we have chosen to be cautious and have assumed that the annual financing of the bonds must come from the state budget. This therefore becomes the biggest cost to the budget of a settlement. We further assume that the state will borrow money each year in order to finance interest payments on property bonds.

It should also be noted of course that Turkey is currently already a large donor and lender to the northern part of Cyprus, and most of the grants are earmarked for infrastructure investment. An increase in funds from Turkey after a settlement cannot be ruled out, since other costs to Turkey relating to the Cyprus issue will be in decline. However, for the purposes of our forecast, we have assumed that the regular funds from Turkey will continue to be spent on longer-term development projects, rather than on the immediate needs of a solution.

### **Just over €1 billion is needed from the international community**

In sum, therefore, the total borrowing requirement of a reunited Cyprus is estimated at €1.8 billion per year, or €9 billion in the first five years (see Figure 37). For the reasons explained above, we expect €2 billion to be covered by the EIB and CEB; €250 million to be covered by syndicated loans; €1.25 billion by Greek and Turkish banks working together; €2.5 billion from local banks, €1.25 billion from international bond issues and €750 million in private-sector financing from public-private partnerships.

This leaves a shortfall of just over €1 billion, which we would hope could come from the international community. In April 2004, the US pledged \$400 million in funding.<sup>65</sup> (The EU is reported to have pledged \$385 million but that is included in our calculations.) According to our estimates, and at current exchange rates, Cyprus would need more than three times that amount in order to be sure it could meet its liabilities. In practice we believe that the real costs could be rather lower than assumed in our research and that therefore the federal republic may not have to borrow as much as we assume. However, it will be important for macroeconomic stability purposes that Cyprus is perceived by international investors to be able to meet its obligations. It is therefore crucial that funds exist on standby that can be drawn on if necessary.

**Figure 37: Bilateral assistance requirement**

CYPRUS BILATERAL ASSISTANCE REQUIREMENT € MILLION						
	2010	2011	2012	2013	2014	Total
1. Government reconstruction and re-housing costs	1,000	1,000	1,000	1,000	1,000	5,000
2. EU grants (a)	138	138	138	138	138	690
<b>3. Borrowing requirement after grants (1-2)</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>4,310</b>
4. Plus interest costs (5% per year)	43	43	43	43	43	216
5. Plus interest payments on property bonds (6% pa)	900	900	900	900	900	4,500
6. Total borrowing requirement (3+4+5)	1,805	1,805	1,805	1,805	1,805	9,026
7. EIB and CEB	400	400	400	400	400	2,000
8. Syndicated loans	50	50	50	50	50	250
9. Greek and Turkish banks	250	250	250	250	250	1,250
10. Local banks	500	500	500	500	500	2,500
11. International bond issues	250	250	250	250	250	1,250
<b>12. Total possible borrowing (7+8+9+10+11)</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>7,250</b>
13. Partnerships with the private sector	150	150	150	150	150	750
14. Total possible financing (12+13)	1,600	1,600	1,600	1,600	1,600	8,000
15. Shortfall (6-14)	205	205	205	205	205	1,026
<b>16. Bilateral assistance needed (15)</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>1,026</b>

(a) If Cyprus is redefined for funding purposes as at least two statistical regions.

Source: Authors' estimates.

<sup>65</sup> "U.S. pledges \$400 million to support U.N. plan for reunifying Cyprus at pre-donors conference", Paul Geitner, Associated Press, April 15, 2004.



## **Impact on the Growth and Stability Pact**

It is also worth noting that as a member of the eurozone the amount Cyprus will be able to borrow will also depend on limits implied by being a member of the eurozone. Under the eurozone's Growth and Stability Pact, the public debt/GDP ratio must not exceed 60% of GDP. Cyprus is fortunate in that it does have some room to manoeuvre though not a great deal.

The current debt to GDP ratio in the southern part of Cyprus was expected by the government to fall to 49% of GDP in 2008.<sup>66</sup> The debt/GDP ratio in the northern part of Cyprus is not known, but based on cumulative debt to Turkey, which amounts to 40% of GDP,<sup>67</sup> we assume that total public debt in the north is 50% of GDP. However, the relative size of GDP in the north means that the impact on reunited GDP should be negligible and that the ratio of a reunited island would remain at around 50% of GDP.<sup>68</sup> Thus Cyprus could technically borrow 10% of GDP in a single year without breaching the Growth and Stability Pact. By 2010, 10% of GDP could be €2.3 billion, which is more than twice the annual requirement we have calculated. Of course, if the state borrowed this amount of money every single year, then the total debt/GDP ratio would probably exceed the 60% threshold in 2011-14. However, even if the public debt/GDP ratio does breach the 60% ceiling, it should fall quickly thereafter since infrastructure costs are concentrated in the first five years.

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<sup>66</sup> Speech by Republic of Cyprus finance minister Charilaos Stavrakis at the Cyprus International Institute of Management, 23 September 2008.

<sup>67</sup> It is well known that this debt is not repaid and Turkey does not receive interest payments on this debt. If one were to add cumulative interest payments since 1974, the ratio would climb to 160% of GDP. We assume that after a settlement, Turkey would not insist on adding cumulative interest payments to the bill. On the other hand, we do assume that Turkey will insist on being paid interest on the cumulative principle amount of some \$1.4 billion.

<sup>68</sup> In the north, GDP at current prices was 15.7% that of the south in 2007, based on State Planning Organization and Statistical Service data.

## Chapter 9

# WHAT WILL BE THE IMPACT ON ECONOMIC GROWTH?

In this chapter, we shall make a forecast for economic growth in a reunited Cyprus by feeding in our calculations from earlier chapters for expenditure on new housing, renovation and infrastructure into a forecast for gross value added (deriving gross domestic product (GDP) estimates from gross output figures). We shall also add the relevant forecasts from our first *day after* report, in which we forecast the peace dividend (mainly on a balance-of-payments basis) for a variety of sectors. We take the base year as 2010, assuming that a solution is agreed by the leaders and approved in a referendum in 2009.

### GDP growth under a status quo scenario

In order to calculate the peace dividend for a reunited Cyprus, first we must make a forecast based on a no-solution scenario. Here, we take both parts of Cyprus separately and assume that they continue to grow at the average pace of the past 10 years in real terms (i.e., adjusted for price increases). Ten years includes approximately two business cycles, therefore should be representative of the long-term trend. Under this scenario, the northern part of Cyprus grows in real terms at an annual average pace of 5.5% and the southern part of Cyprus grows at an annual average pace of 3.9%. Using a weighted constant-price series, we add the two parts of Cyprus together, which brings us to an average real GDP growth rate for the whole (divided) island of 4.1%. Under this scenario, the tourism-related hotel and restaurant sector continues to grow well below trend, at only 1.9% per year.

We can calculate the impact on gross value added and GDP at current prices by adding deflators.<sup>69</sup> At the end of five years, GDP in the south at current prices is €24,747 million and GDP in the north at current prices is €4,011 million, while the whole island is €28,759 million.

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<sup>69</sup> Since deflators are not available for the northern part of Cyprus we forecast in euros and used the deflators in south as a proxy. Given that inflation is generally higher in the north (probably also in euro terms), this means that the current-price forecast in the north may be slightly under-estimated.

**Figure 38: Real GDP growth: status quo scenario**

<b>REAL GDP GROWTH: STATUS QUO SCENARIO</b>			
	<b>Cyprus south</b>	<b>Cyprus north</b>	<b>Divided island</b>
Agriculture, hunting and forestry	-1.0	4.0	0.8
Fishing	7.7	4.5	7.1
Mining and quarrying	7.1	8.4	7.4
Manufacturing	0.1	3.5	0.5
Electricity, gas and water supply	6.1	6.5	6.2
Construction	3.8	13.4	5.2
Wholesale and retail trade	5.2	6.0	5.3
Hotels and restaurants	1.6	4.4	1.9
Transport, storage and communication	7.0	5.0	6.7
Financial intermediation	6.3	1.7	6.0
Real estate, renting and business activities	5.3	10.3	7.2
Real estate activities	5.9	3.9	5.9
Other activities	5.9	16.8	9.2
Public sector	3.0	2.7	3.0
Public administration and defence	3.1	2.6	3.0
Education	2.9	3.2	2.9
Health and social work	2.6	2.6	2.6
Other community, social and personal services	3.7	2.3	3.6
Private households with employed persons	12.4	0.0	12.4
<b>Gross value-added</b>	<b>3.9</b>	<b>5.5</b>	<b>4.1</b>
<b>Gross domestic product (GDP)</b>	<b>3.9</b>	<b>5.5</b>	<b>4.1</b>
<b>Memorandum item</b>			
Gross domestic product at current prices in 2014 (€ m)	24,747	4,011	28,759

Source: Authors' forecasts.

### **GDP growth under a settlement scenario: construction and real estate**

In order to calculate the impact on growth of a settlement to the Cyprus problem, we forecast gross value-added using figures calculated in Chapters 3 to 5 as well as the relevant forecasts from our first *day after* report. The figures we used in Chapters 3 to 5 and the first *day after* report are in gross output terms: they do not measure the “value-added” of the input. However, using historical data, we can make estimates for how much of a euro spent on, say, construction or hotels and restaurants, will be counted as gross value-added by statisticians.

As we can see from Figure 21 in Chapter 5, the total value of spending on new housing, renovation and necessary infrastructure in a reunited Cyprus by the public and private sector is expected to reach €7.2 billion (gross output terms) in the first five years. The vast majority of this spending would be on construction. However, as outlined in Chapters 4 and 5, around €1,300 million of this total will be spent on the provision of new electricity and water supplies.

For the purposes of our forecast, therefore, we have fed the whole of the electricity and water supply figure (converted into gross value added) into our electricity, gas and water supply forecast. The remainder has been fed into construction. Back-testing of historical data show that the value added in the real estate sector is typically 10% of construction value added. We have therefore derived our real estate forecast as 10% of the construction forecast.

### **Quarrying and cement production**

A boom in construction would have an impact on quarrying, a subsector of mining, and local cement production, a subsector of manufacturing. We have therefore made small upward adjustments to gross value added in mining and quarrying and manufacturing over the forecast period. Under a solution scenario, mining and quarrying grows by 8.3% per year and under a no-solution scenario mining and quarrying grows by 7.4%. Manufacturing grows by 0.5% per year on average under a no-solution scenario and by 1.1% under a solution scenario.

### **Other sectors**

As outlined in our first *day after* study, a settlement of the Cyprus problem would open up the huge new market of Turkey for the southern part of Cyprus and would open up the rest of the world for the northern part of Cyprus. This will create huge spin-off benefits, especially for doing business with Turkey, the region's largest emerging market. It should be noted that Turkey has better and more broadly based growth prospects in the long term than Russia, whose over-dependence on oil and gas makes it less diversified. A reunited island, with more ports of entry, full freedom of movement and a greater number of accessible ancient sites would also be a much more attractive option for tourists.

In our first *day after* report, we made separate seven-year forecasts (on a gross output basis) for tourism (a cumulative €4,093 million), transport (€152 million), tertiary education (€1,132 million), and accounting and legal services (€723 million). In our *day after II* forecast, we have adjusted these to produce figures on a gross value added basis and fed the first five years into our current forecast. We also made a forecast for the ongoing (as opposed to five-year) benefits to the construction sector, which we have added to the initial benefits forecast in this report. We have also added the expected benefits to the important merchanting sector, which were not included in our first *day after* forecast. Finally, since our feedback from the first *day after* report noted that we had neglected to calculate the large impact on the financial sector of a settlement, we have made an additional forecast for financial intermediation. We expect that all of the extra transactions created by the construction boom and government borrowing will lead the financial sector to grow by an additional 1% per year in real terms compared with the status quo scenario.

Under these assumptions, real GDP growth of a united island rises at an annual average pace of 7.1% in the first five years, compared with 4.1% for a divided island. The impact on the hotel and restaurant sector is extremely large. Growth rises from 1.9% under a status quo scenario to 8.2% under a settlement scenario. The construction sector enjoys an average

growth rate of 14.2%, compared with 5.2% under a status quo scenario and real estate grows by 6.9%, compared with 5.9% with no solution (or perhaps even less under current circumstances). Other sectors also benefit from the general boost to the economy (see Figure 39). This amounts to a substantial shot in the arm for the Cyprus economy. At the end of the first five years, GDP in current prices is €3.2 billion higher than it would have been under a status quo scenario.

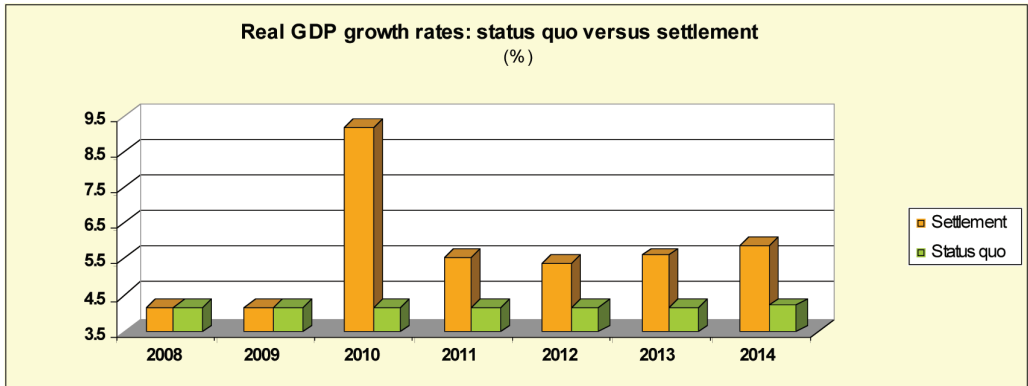
**Figure 39: Real GDP growth: status quo versus solution**

<b>REAL GDP GROWTH: STATUS QUO V. SOLUTION</b>		
<b>Average real % change, 2010-2014</b>	<b>Divided island</b>	<b>United island</b>
Agriculture, hunting and forestry	0.8	0.8
Fishing	7.1	7.1
Mining and quarrying	7.4	8.3
Manufacturing	0.5	1.1
Electricity, gas and water supply	6.2	10.9
Construction	5.2	14.2
Wholesale and retail trade	5.3	6.0
Hotels and restaurants	1.9	8.2
Transport, storage and communication	6.7	7.1
Financial intermediation	6.0	7.0
Real estate, renting and business activities	7.2	7.8
Real estate activities	5.9	6.9
Other activities	9.2	9.6
Public sector	3.0	4.1
Public administration and defence	3.0	3.0
Education	2.9	5.2
Health and social work	2.6	2.6
Other community, social and personal services	3.6	3.6
Private households with employed persons	12.4	12.9
<b>Gross value-added</b>	<b>4.1</b>	<b>7.1</b>
<b>Gross domestic product (GDP)</b>	<b>4.1</b>	<b>7.1</b>
<b>Memorandum item</b>		
Gross domestic product at current prices in 2014 (€ m)	28,759	31,977

Source: Authors' forecasts.

The biggest impact on growth is expected to come in the first one or two years, as refugees return, new houses and infrastructure are built and old houses are renovated.

**Figure 40: Real GDP growth rates**



### The impact on jobs

A growing economy creates jobs. We can estimate how many jobs will be created by a settlement by observing the historical relationship between jobs and growth in the southern part of Cyprus.<sup>70</sup> We can see that for every 1% increase in real GDP growth, employment grows by around 0.6%.

Under a status quo scenario, employment would still be expected to grow, because we still expect the economy to grow. However considerably more jobs would be created by a settlement: amounting to a cumulative 33,602 at the end of the first five years. The average increase in employment each year would be 6,720.

**Figure 41: Jobs created by a solution**

JOBS CREATED BY A SOLUTION							
	2008	2009	2010 Y1	2011 Y2	2012 Y3	2013 Y4	2014 Y5
All-island employment with a settlement	435,035	446,346	471,836	488,139	504,522	522,156	541,258
All-island employment without a settlement	435,035	446,346	457,962	469,892	482,145	494,730	507,656
Jobs created by a solution (cumulative)	0	0	13,873	18,247	22,377	27,426	33,602
Jobs created each year	0	0	13,873	4,373	4,130	5,049	6,177

Source: Authors' calculations based on historical employment data in the south.

<sup>70</sup> Employment figures are not available for the northern part of Cyprus.

## **The peace dividend revisited**

In our first *day after* report, we calculated that the peace dividend would amount to an average €1.8 billion in the first seven years (measured on a gross output basis). In equivalent gross value-added terms, on which we base our new forecast, this was €1.1 billion. However, that forecast was created in an environment in which there was deep scepticism about the benefits of a solution to the decades-old Cyprus problem and even outright hostility in some quarters to discussing it. We were therefore deliberately cautious and included only selected sectors in our forecast. Now that we have made a detailed assessment of the impact on the construction and real estate sectors of new housing, renovation and infrastructure, and have included a forecast for the financial sector, we can compare our new forecast to that of the original report. For this purposes we also extended the forecast period to seven years, and assumed that additional construction investment would start to tail off after the first five years. We found that the peace dividend in the first seven years after a settlement would amount to an average €4.1 billion (in gross output terms), compared with €1.8 billion in our previous forecast. This raises the peace dividend per household from €5,500 in our initial forecast to more than €12,000 in our revised forecast.

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## Chapter 10

# CONCLUSIONS

### **Total investment costs range from €6.3 billion to €8.6 billion**

The aim of this research has been threefold: (a) to estimate a range of possible investment costs for the housing, renovation and immediate infrastructure requirements of the settlement of the Cyprus problem; (b) to assess how this and property compensation might be financed; and (c) to calculate the impact on economic growth and jobs of such a large amount of investment spending.

Based on four different scenarios, we estimated that the cost of new housing would range from a low of €407 million (under our extreme scenario) to €3.2 billion. For the purposes of this research, we assumed that the cost of such housing would be borne by the public sector, at least in the first five years. We also estimated likely spending by the private sector on renovation of homes returned to refugees, which ranged from €1.4 billion to €3.0 billion under the same four scenarios. We took a special look at the fenced area of Famagusta (Varosha) to calculate likely costs of rebuilding or restoration of private and public buildings, as well as upgrading infrastructure in the area. We estimated that investment spending on Varosha would amount to between €1.5 billion and €1.8 billion including housing already estimated above, and between €1.1 million and €1.3 million excluding housing (see Figure 18 in Chapter 4). Based on previous assumptions that territorial adjustment would involve the building of new villages, which in turn would require infrastructure inputs, we estimated that an additional €1.2 billion would be spent on new housing complexes. A further €406 million would be spent on upgrading infrastructure in areas subject to territorial adjustment.

In total, the amount of new investment created by a settlement of the Cyprus problem would range from €6.3 billion to €8.6 billion, or an average of €7.2 billion, of which €4.3 billion would be funded by the public sector at contractor costs (see Figure 21 in Chapter 5). Once other costs are included, the public-sector investment in housing and infrastructure comes to €5 billion.

For the purposes of our financing forecast, we also made a rough estimate of property compensation. If compensation were financed entirely by bonds (rather than a mix of bonds and other instruments that would not burden the public purse), this would amount to just under €15 billion. If the government were to assume the cost of interest payments (rather than the agency charged with issuing and selling title deeds), this would amount to interest payments of €900 million per year at an assumed interest rate of 6% per year (see Figure 37 in Chapter 8).



## **It can be financed—with the help of international assistance**

In order to assess the capacity of the public sector (federal or constituent state) to finance €5 billion of public sector housing infrastructure investment in the first five years and €900 million per year in property bonds, we looked at a variety of domestic and international sources of financing. We found that one of the most significant measures that could be taken would be to redefine Cyprus as two or more statistical regions for the purposes of EU financing. This redefinition could save the Cypriot (or indeed, the global) taxpayer €600 million per year. We then assessed the potential of other sources of financing—multilateral lenders such as the European Investment Bank, syndicated loans, international bonds issues, Greek and Turkish banks and Cypriot banks—based on historical trends—as well as the potential for public-private partnerships (PPPs). On the assumption that by 2010 global financing conditions would still be more difficult than in 2007, we made a cautious forecast for each of these financing sources, assuming that in the future Cyprus could borrow less than in the past. International guarantees could also play a significant role in raising the amount that could be borrowed and the interest rate paid. Interestingly, we found that the institutions with the greatest lending capacity could be the local Cypriot commercial banks, which are highly capitalized in both parts of the island and in the south have shown their capacity to lend several billion per year to the government in recent years.

However, even with a substantial input from the domestic market, we still found a shortfall of just over €1 billion. According to our estimates, therefore, a reunited Cyprus would require €205 million per year for the first five years after the settlement from international donors to be sure of meeting its financing needs.

## **The impact on growth and jobs will be considerable**

Investing the day after should not only be seen as a cost. The impact on economic growth and employment of large-scale housing and infrastructure-related spending would be considerable. We found that, together with the boost to manufacturing of construction materials, tourism, transport, higher education, financial and business services, a settlement would raise the real GDP growth rate by 3 percentage points, to average 7.1% in the first five years. For every 1% increase in real GDP growth, employment would be expected to grow by around 0.6%. We estimate that a settlement would create more than 33,000 jobs in the first five years, with an average increase in employment each year of more than 6,700 (see Figure 41 in Chapter 9).

## **Concluding remarks**

A possible settlement of the Cyprus problem naturally raises concerns among citizens about the costs and the potential impact on taxpayers. The best environment in which to address these concerns is one in which citizens are well informed, based on facts and rational argument. It has been our aim in this study to make that debate as informed as possible by making a detailed assessment of likely investment costs that are necessary for the implementation

of the solution. By focusing on the real costs necessary to implement a settlement, rather than on additional desirable long-term developments, our study has shown that although the costs will be large, they should, with some help from our international supporters, be manageable. Moreover, the positive economic benefits of the reconstruction boom will be considerable, with very long-lasting effects that will benefit the whole island and all Cypriots.

**Figure 42: Reconstructing a reunited Cyprus: summary**

<b>DAY AFTER II: RECONSTRUCTING A UNITED CYPRUS: SUMMARY</b>						
<b>€ million unless otherwise indicated</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total</b>
<b>How much will it cost? (Public- and private-sector expenditure)</b>						
Public-sector new housing (average of four scenarios)	431	431	431	431	431	2,155
Public-sector infrastructure	435	435	435	435	435	2,175
<b>Subtotal: investment by the public sector (a)</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>866</b>	<b>4,330</b>
Private-sector renovation (average of four scenarios)	445	445	445	445	445	2,226
Private-sector infrastructure	136	136	136	136	136	681
<b>Subtotal: investment by the private sector</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>581</b>	<b>2,907</b>
<b>Total public- and private-sector investment</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>1,447</b>	<b>7,236</b>
<b>How can it be financed? (Public-sector financing)</b>						
1. Government reconstruction and re-housing costs (b)	1,000	1,000	1,000	1,000	1,000	5,000
2. EU grants (c)	138	138	138	138	138	690
<b>3. Borrowing requirement after grants (1-2)</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>862</b>	<b>4,310</b>
4. Plus interest costs (5% per year)	43	43	43	43	43	216
5. Plus interest payments on property bonds (6% pa)	900	900	900	900	900	4,500
<b>6. Total borrowing requirement (3+4+5)</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>1,805</b>	<b>9,026</b>
7. EIB and CEB	400	400	400	400	400	2,000
8. Syndicated loans	50	50	50	50	50	250
9. Greek and Turkish banks	250	250	250	250	250	1,250
10. Local banks	500	500	500	500	500	2,500
11. International bond issues	250	250	250	250	250	1,250
<b>12. Total possible borrowing (7+8+9+10+11)</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>1,450</b>	<b>7,250</b>
13. Partnerships with the private sector	150	150	150	150	150	750
<b>14. Total possible financing (12+13)</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>1,600</b>	<b>8,000</b>
15. Shortfall (6-14)	205	205	205	205	205	1,026
<b>16. Bilateral assistance needed (15)</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>205</b>	<b>1,026</b>
<b>What will be the impact on jobs and growth?</b>						
Real GDP growth (%)	9.3	5.6	5.4	5.7	5.9	-
New jobs created each year (total number)	13,873	4,373	4,130	5,049	6,177	33,602

(a) Excluding consultants' fees at 15%. (b) Including consultants' fees at 15%.

(c) If Cyprus is redefined for funding purposes as at least two statistical regions.

Source: Authors' estimates.

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**Appendix table 1: Population and housing by district, census years**

POPULATION AND HOUSING BY DISTRICT IN CENSUS YEARS			
	1960 Population	1960 Houses inhabited	1973 Population
<b>Total</b>	<b>573,566</b>	<b>141,375</b>	<b>631,778</b>
Lefkosia	204,283	48,716	232,702
Keryneia	30,946	8,012	32,586
Ammochostos	114,309	28,109	123,856
Larnaka	58,619	13,731	60,714
Lemesos	107,262	27,390	124,855
Pafos	58,147	15,417	57,065
<b>Urban</b>	<b>205,983</b>	<b>47,756</b>	<b>266,803</b>
Lefkosia	95,343	21,894	115,718
Keryneia	3,441	922	3,892
Ammochostos	34,752	8,139	38,960
Larnaka	19,807	4,495	19,608
Lemesos	43,561	10,183	79,641
Pafos	9,079	2,123	8,984
<b>Rural</b>	<b>367,583</b>	<b>93,619</b>	<b>364,975</b>
Lefkosia	108,940	26,822	116,984
Keryneia	27,505	7,090	28,694
Ammochostos	79,557	19,970	84,896
Larnaka	38,812	9,236	41,106
Lemesos	63,701	17,207	45,214
Pafos	49,068	13,294	48,081

Source: Department of Statistics, Census Publication 1973, Table 2.

**Appendix table 2: Population by religion in 1960**

POPULATION BY RELIGION IN 1960								
	Lefkosia	Keryneia	Ammochostos	Larnaka	Lemesos	Pafos	Absolute number	% of total
Christian Orthodox	153,674	24,427	91,113	43,111	85,475	43,856	441,656	77.0
Moslem	40,902	4,314	19,121	12,687	13,742	14,176	104,942	18.3
Armenian- Gregorian	2,438	33	127	557	219	4	3,378	0.6
Roman- Catholic	1,628	92	750	449	1,573	13	4,505	0.8
Maronite	798	1,794	33	18	102	7	2,752	0.5
Other	4,843	286	3,165	1,797	6,151	91	16,333	2.8
<b>Total</b>	<b>204,283</b>	<b>30,946</b>	<b>114,309</b>	<b>58,619</b>	<b>107,262</b>	<b>58,147</b>	<b>573,566</b>	<b>100.0</b>

Source: Department of Statistics, Census of 1960.

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# The day after II

This report does not aim to propose any specific solution to the Cyprus problem. Rather, by examining a range of scenarios, it attempts to answer some of the key questions uppermost in Cypriots' minds: "How much will the solution cost? How can it be financed? What will be the impact on jobs and growth?"

In order to answer these questions, the authors first examine four different scenarios to estimate the amount of new housing, renovation and infrastructure investment by the public and private sectors that will arise as a result of a settlement. They focus their examination on investment that will be necessary to implement a solution, rather than on other, longer-term development goals. They conclude that necessary new housing, renovation and infrastructure investment by both the public and private sector could amount to €7.2 billion over five years. Spending by the public sector would amount to €4.3 billion, while spending by the private sector would amount to €2.9 billion. For the purposes of their financing forecast, they also make a rough estimate of property compensation, although in practice this will depend greatly on the details of the property settlement.

In order to assess whether this kind of expenditure is affordable, the authors study a wide variety of domestic and international sources of financing. The authors find that, even with substantial input from the domestic and international markets, just over €1 billion would still be needed from international bilateral donors in the first five years after a settlement.

Investing in the day after should not only be seen as a cost. In this second Day After report, the authors extend their analysis to the whole economy. They find that the construction boom that a solution would entail, the boost to manufacturing of producing construction materials, together with the impact of a settlement on tourism, transport, higher education, and financial and business services, would raise the real GDP growth rate by 3 percentage points in the first five years, creating more than 33,000 jobs. The positive economic benefits of the reconstruction boom will be considerable, with very long-lasting effects that will benefit all Cypriots in all parts of the island.

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