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NORTH AFRICA: GRAPPLING WITH DEMOGRAPHY

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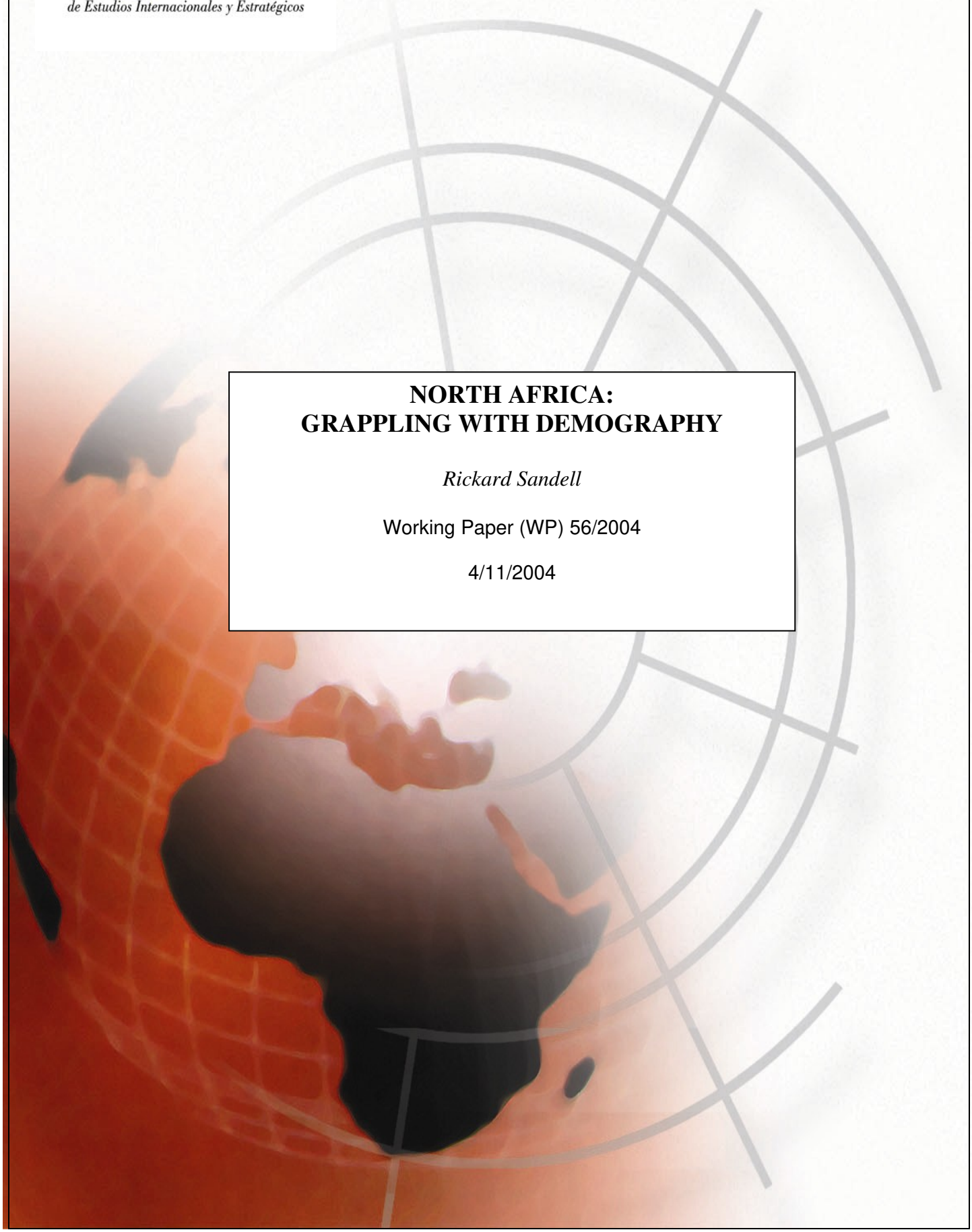

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North Africa: Grappling with Demography

Rickard Sandell *

Summary: This paper discusses the general nature of current demographic trends. The purpose is to offer a more nuanced view of part of the world's population development. In particular, the author shows that the demographic transition, while similar in developed and developing countries, gives rise to an emerging demographic clevage between developed and developing countries. The focus of this paper is on demographic changes in the Mediterranean region. Rickard Sandell contrasts demographic developments on both the southern and northern shores of the Mediterranean Sea

Introduction

Demographers have for some time been talking about the 'new' global demographic trends. Roughly, these trends are falling fertility and falling mortality rates. Their main implications for society are well known: ageing populations and slower or negative population growth (Sandell, 2004). There are also political and economic implications, such as how to maintain pensions when the labour force is shrinking and the number of people in retirement age is increasing rapidly. Health services and education are also affected by changes in the population's age structure. Last but not least, the supply of labour is shrinking rapidly. This makes increased productivity a necessity if the goal is to preserve the current level of economic performance. In sum, demographic changes are of such magnitude that they are likely to change the conditions for economic growth and welfare, possibly to the worse, if States do not adjust to the new demographic reality fast enough.

What is somewhat misleading is that since the trends are labelled as global, and are therefore present in both rich and poor countries world-wide, we tend to generalize too much about how they can come to affect individual countries and regions. Much of the western debate about the consequences of the demographic transition affords a disproportionate amount of attention to the 'luxurious' welfare problems described above. These problems inherently pertain to developed countries, even in the event of developing countries' demographical problems being exactly the same.

That is, although developing countries are facing the same demographic transition, it is much less clear how the demographic transition will unfold for them and how it will eventually come to affect them (Reher 2004). Nor has the question been satisfactorily explained of how demographic changes in developing countries could come to affect developed countries (see McNicoll 1984).

This paper discusses the general nature of current demographic trends. The purpose is to

* *Senior Analyst, Demography, Population and International Migration, Elcano Royal Institute*

offer a more nuanced view of part of the world's population development. In particular, I will show that the demographic transition, while similar in developed and developing countries, gives rise to an emerging demographic cleavage between developed and developing countries. It is not unlikely that this emerging cleavage could change the conditions for international relations in very substantial ways, and possibly give way to a new world order.

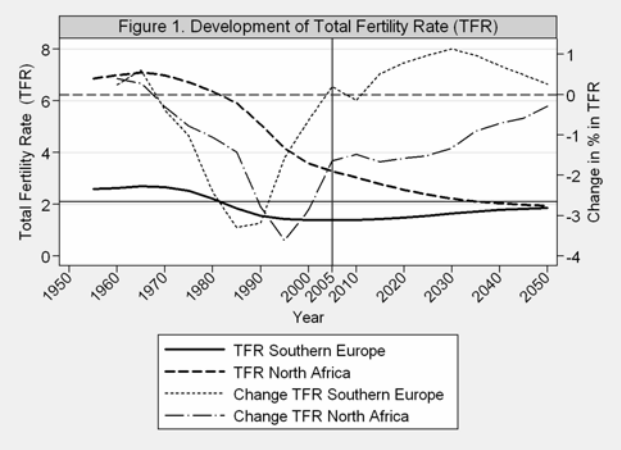
The focus of this paper is on demographic changes in the Mediterranean region. I shall contrast demographic developments on both the southern and northern shores of the Mediterranean Sea. The countries included on the European side, defined here as Southern Europe, are France, Greece, Italy, Portugal and Spain. The countries constituting North Africa are Algeria, Egypt, Libya, Mauritania, Morocco and Tunis.

The purpose of the comparison is to show how similar demographic trends in North Africa and in Southern Europe give rise to sometimes very different general developments. These opposite developments are, in turn, likely to affect the general performance (political and economic) of the countries in the region. They could be beneficial if used to our advantage; if ignored, they are potentially dangerous and could be a source of conflict and tension in the region.

The Demographic Transition in the Mediterranean Region: Main Components

The new global demographic trends became visible in the Mediterranean region in the 1960s and 1970s when total fertility rates very suddenly started to decline rapidly on both shores of the Mediterranean Sea. That is, declining fertility levels are a universal phenomenon in the region, in so far as the phenomenon is occurring at roughly the same time. However, focusing on the timing alone prevents us from seeing important features concerning this phenomenon.

Figure 1[1] show the development of the total fertility rates (the number of children per woman; see left-hand y-axis) on the southern and northern shores of the Mediterranean Sea. We can see that the peak in fertility occurs at roughly the same time (1965-70). The important difference between the two sub-regions is the magnitude of fertility at the onset of the demographic transition. In Southern Europe the total fertility rate peaks at 2.7 children per woman in the period 1965-70. In North Africa it peaks at 7.08 children per woman in the same period. It is easy to see that by 2005, in absolute terms, the drop in fertility in North Africa exceeds that of Southern Europe by a factor of 4. Thus, it is tempting to conclude that North Africa has experienced the most dramatic changes in the period 1965 to 2005.

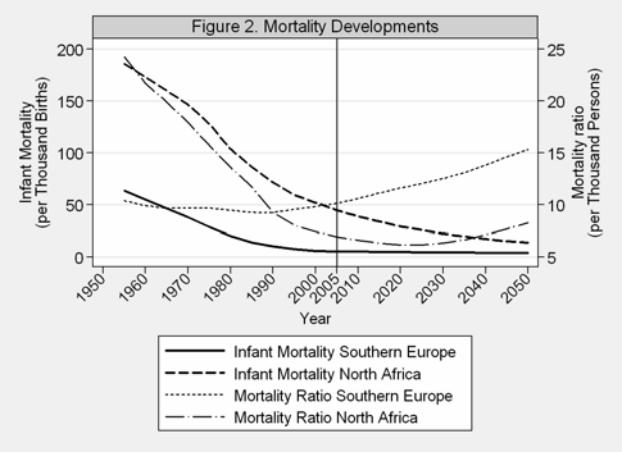


If we analyse the relative changes instead, a different pattern emerges (see right-hand y-

[1] Data from the United Nations Population Division's World Population Prospects: 2002 Revision Population Database (*http://esa.un.org/unpp/*). If not otherwise stated, all data in this article are extracted from this source. I use the UN's Medium Scenario.

axis). Southern Europe's fertility rate fell at a faster rate than did northern Africa's. This implies a faster advance of the demographic transition in Europe than in North Africa. Another find when analysing the relative changes is that from around 2005 Southern Europe should move on to the next phase of the demographic transition, whereby the total fertility rate stabilises below the replacement level (2.1 children per woman), slightly higher than its minimum level. In northern Africa the trend is still towards even lower fertility rates. This development will continue at least until around 2030 if the UN's forecasts prove to be accurate.

Another very important item of information revealed by Figure 1 is that it is only in Southern Europe that total fertility levels have so far fallen below the replacement level. This happened relatively soon after the start of the demographic transition (around 1980). If the UN's medium scenario forecast is reasonably accurate, North Africa is not expected to experience fertility rates below the replacement level until the end of the forecasted period, ie, around 2040-50. Southern Europe, on the other hand, will experience below-replacement fertility levels for the remaining part of the forecasted period. As we shall soon see, this difference has important, but very different, implications for population growth in the two sub-regions.



To gain a proper understanding of the demographic transition's effect on population developments in the Mediterranean region, in addition to information about developments in fertility rates, we must add information about the development of mortality rates. Figure 2 shows the development of infant mortality per thousand births and the total mortality rate per 1000 people on both shores of the Mediterranean Sea. The developments in infant mortality are impressive (see left hand y-axis). Since 1990 infant mortality in Europe has been reduced to a minimum from having been above 50 infant deaths per thousand births as late as the 1960s. In North Africa the trend is even more impressive. Infant deaths have fallen from close to 200 infant deaths per thousand births in the late 1950s to around 50 in 2005. This level is still high compared with Europe, but the difference between the two regions is expected to be almost erased by the end of the period.

The falling infant mortality rate in North Africa is the principal reason for the sharp decline in total mortality rates in North Africa (see right hand y-axis), particularly up until the 1980s.

In Europe the trend is somewhat different. Total mortality rates have been more or less constant since the 1950s, despite that infant mortality levels continued declining. The reason for this is that the largest improvements in infant mortality in Southern Europe took place before 1950. Hence, the effect of continued decline in infant mortality on total mortality is small. From 2005 to the end of the observation period total mortality should rise significantly in Southern Europe. The rise in total mortality rates is due to a more advanced ageing process in Southern Europe.

However, the most important finding as regards mortality is that the rate in North Africa has been below that of Europe since the 1990s. Furthermore, North African mortality rates should be significantly lower than in Southern Europe for the entire period under consideration.

What are the consequences of the differences in mortality and fertility trends just described? Southern Europe has, as we have seen, experienced and continues to experience below-replacement fertility and rising mortality rates. Both factors have negative implications for population growth. When present at the same time the result is inevitably population decline in the near future[2]. North Africa on the other hand, while clearly experiencing declining fertility rates, is not expected to see below-replacement fertility until the middle of this century. In fact, despite the recent fall in fertility *North Africa still has a total fertility rate that exceeds the level at which Europe peaked in 1965*. Above-replacement fertility levels always imply population growth. If accompanied by falling mortality rates population growth is explosive.

This implies that population growth is still very significant in North Africa, and that we can expect growth to continue to be significant for a large part of this century. In contrast, Southern Europe is likely to face a situation of substantial population decline. The differences in fertility and mortality rates between the northern and southern shores of the Mediterranean and the subsequent effect these trends have on population growth should result in an important population gravity shift in the region.

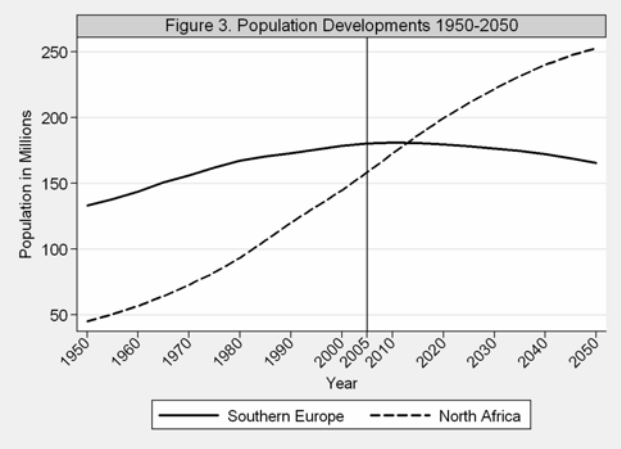


Figure 3 shows the development of the size of the two sub-regions' populations. Judging by the slope of the increase, the speed of North African population growth is now approaching its historical zenith. However, and more importantly, in 1950, Southern Europe's population was three times the size of North Africa's. Today, Southern Europe's population is still larger than North Africa's, but the difference is quickly approaching a minimum. By the end of the period (2050), and provided that the UN's medium forecast is reasonably valid, North Africa's population should exceed Southern Europe's by close to 100 million people. This is indeed a dramatic change brought about by the demographic transition. It looks even more dramatic if we compare individual countries.

Table 1. Populations of Spain and Morocco from 1950 to 2050 (1)

(Millions)	1950	1980	2005	2025 (1)	2050 (1)
Morocco	8.9	19.4	31.5	40.7	47.1
Spain	28.0	37.5	41.2	40.4	37.3

(1) Forecast UN medium variant.
Source: UN World Population Prospects, 2002 Revision.

[2] Even if the UN's forecast is proved wrong and fertility rates return above the replacement level, the damage will already have been done in Southern Europe. The reason for this is that 25 years of below-replacement fertility rates produce a substantive decline in the number of potential mothers. Thus, a natural population decline in Southern Europe is virtually impossible to avoid after the year 2020 (see Lutz 2002).

Table 1 compares the populations of Morocco and Spain at four different points in time. As the table shows, Morocco's population was less than 10 million in 1950, while Spain's was close to 30 million. Current forecasts indicate that from 2025 Morocco's population will exceed Spain's. To put this growth into perspective, if Spain were to have enjoyed the same relative increase in the period 1950-2005, it would have close to 100 million inhabitants in 2005 instead of 41.2 million. Thus, Morocco's past population growth has been spectacular, with an increase of more than 22 million in only 50 years.

The rapid population increase in North Africa and the imminent population decline in Southern Europe are producing a demographic paradigm shift in the region. I shall now turn to some of the socio-economic consequences that should appear as we approach this shift.

Similar Trends but Different Demographic Realities

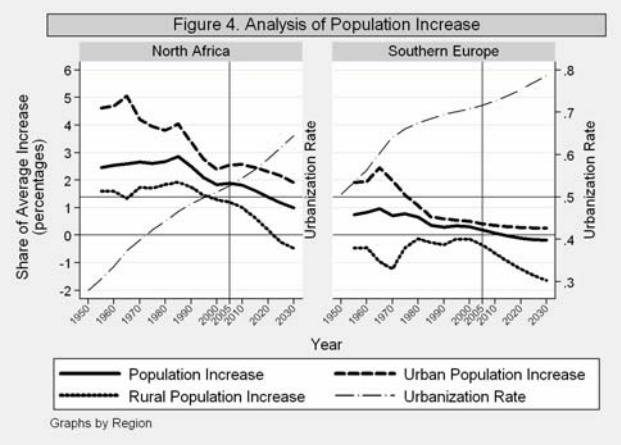
A more general implication of the difference in magnitude of major demographic indicators such as fertility and mortality rates is that while all countries in the region are experiencing the same general population trends, they are each facing very different demographic realities at any given point in time (Keyfitz 1980). Different demographic realities in turn give rise to different political responses which can alter the conditions for international relations and change the security outlook for both countries and entire regions (McNicoll 1984, Homer-Dixon 1991).

What type of demographic realities are rapid demographic change and rapid population growth in North Africa likely to bring about? There are multiple and sometimes contradictory answers to this question (McNicoll 1984).

Population Growth and Urbanization

Perhaps one of the most important processes affected by population growth, particularly rapid population growth, is urbanization. As a phenomenon, urbanization is brought about by economic and political factors. However, the speed of the urbanization process is to a large extent governed by the demographic factors discussed in the first part of this paper (Lowry 1990).

Traditionally, North African states have been rural states, with the majority of the population living in the countryside. This is not the case in Southern Europe where the majority of the population has been residing in urban areas since the 1950s (Lowry 1990). Figure 4 confirms this impression. However, the same figure also reveals some important changes in their processes of urbanization.



Both shores have seen increased urbanization ratios throughout the period up until 2005, and urbanization is expected to continue for the entire period, but with one important difference: North Africa has a much faster relative urbanization rate than Southern Europe, while its starting point was far

below the European level.

Breaking down population growth rates to mirror population growth in rural and urban areas adds information to our understanding of current and past changes in the regions' spatial population processes. Both North Africa and Southern Europe experienced more or less constant total population growth for the period 1950-80, although at different magnitudes (see the solid line in Figure 4's left hand y-axis).

In North Africa, particularly at the beginning of the period, the speed of urban population growth was significantly greater that that of either total or rural growth. The extreme urban growth rate of between 2 to 1 percent above the total growth rate is a strong indication that there has been very significant rural-to-urban migration topped by a high natural increase in urban areas. However, despite a very significant movement from the countryside to urban areas, population growth has been sufficiently strong in North Africa's rural areas to offset the depopulation of the countryside. Thus, both rural and urban areas are much more populous now than they were fifty years ago.

To some extent the general trend in Southern Europe is similar to that in North Africa. The main difference between the two sub-regions is that in Southern Europe rural population growth is negative for the entire period. That is, the countryside of Southern Europe is subject to a serious depopulation process. The depopulation of rural areas in Southern Europe was particularly significant in the period before the 1970s, which is reflected in the corresponding negative and positive slopes in rural and urban growth rates, respectively, in this particular period.

Both regions should see a second wave of urbanization as they enter the 21st century. In Europe the second wave should be less the result of movement from rural to urban areas and more a question of natural increase or, rather, lack of natural increase in rural areas. The price of earlier depopulation is that those who move are typically younger people in fertile age, leaving only the elderly behind. This effectively prevents a natural increase in rural areas in the future. In contrast, North Africa should see an accelerating depopulation process involving rural to urban movement similar to that experienced in Southern Europe in the 1970s and 1980s, resulting in continued higher urban over total growth rate in the region.

No doubt, the most important finding to be drawn from Figure 4 is that North African society has seen a complete transformation from being rural to becoming urban in less than one generation. Rapid urbanization, or population redistribution as seen in North Africa, has significant economic and political consequences for society (McNicoll 1984, Lowry 1990). When a society changes from being predominantly rural to being largely urban, the country's institutional arrangements are also in flux. In the case of North Africa, the region is changing from a rural economy to an industrial and service-oriented economy (Bloom and Freeman 1986). In other words, North African countries are not only experiencing a demographic transition, they also have to cope with a large-scale economic transition. History has shown that an economic transition, particularly industrialization, is apt to generate conflict between the winners and losers in the new order (Kuznets 1973, Goldstone 1986). In some countries it has even led to rebellion and civil war (Kuznets 1973). Let us not forget that when Europe made the transition from being a rural to an urban society in the first half of the past century there were two World Wars fought on the European mainland. Urbanization was unlikely to have been the cause of these tragedies in

Europe's history, but it cannot be ruled out that rapid urbanization at the time was a contributory factor.

The change from a rural to an urban society does not have to be problematic, but the chances are that it is. The most obvious problem facing countries involved in this type of transition is to be able to make ends meet in terms of, for instance, food production. Hence, to keep up with the speedy increase of the urban population, agriculture has to become more effective. Failing to increase agricultural productivity means that an increasing share of the food supply has to come from expensive food imports (Homer-Dixon 1991). It is not unlikely for domestic efforts to satisfy food demand to lead to the degradation of the land available for cultivation and lead to greater food shortages, with more imports as a result. The problem will become even more serious when North Africa starts to experience a depopulation of the countryside in the first half of this century. More resources dedicated to food imports means that investments in other areas will suffer.

Other resource-related problems are likely to emerge as urbanization advances. With urban population growing at a speed above 2 % in the next few decades and at 1%-1.5 % above total growth, urban areas are at risk of expanding at a faster rate than the government's economic and administrative capacity to ensure law enforcement. If this occurs it cannot be ruled out that the potential for disorder could rise dramatically (Goldstone 1986).

There are also important interaction effects between industrialization and the speed of urbanization. Industrialization requires city folk to satisfy the demand for labour as the economy changes its focus from agriculture to industry and services. Once this demand becomes manifest and urbanization is set in motion, there is a risk that the speed of urbanization overtakes the speed of industrialization. There are several reasons why this is likely to happen. Wages are usually higher in the services and industry sectors than in the agricultural sector, and services and education are usually better than in urban areas. Hence, urban areas are simply more attractive than rural areas, thereby further boosting the speed of urbanization (Lowry 1990). Another reason is that the agricultural sector is incapable of absorbing a population increase over a certain level due to the scarcity of land available for cultivation. When this happens people in the countryside are forced to move to urban areas. If and when the speed of urbanization overtakes the speed of industrialization the informal sector of the economy grows disproportionately (Bloom and Freeman 1986). This is a blow to a state's fiscal capacity and makes it more difficult for the government to accommodate the rapid increase in urban population.

When the speed of urbanization exceeds either the speed of economic transition or the speed at which the government accommodates urban growth, the result is 'over-urbanization' (Lowry 1990). Over-urbanization usually leads to discontent and tension in urban areas as well as to political protest. The urban context facilitates mass movement and collective action (Fischer 1982). Researchers studying these topics have offered empirical evidence for a correlation between rapid urban population growth and the incidence of political protest (Auvinen 1997).

Population Growth and the Rise of the Younger Generations

Rapid population growth gives rise to an increasing supply of younger workers. A younger workforce is usually synonymous with a high level of human capital: younger people tend to be better educated than other categories of the workforce as they have received their education more recently than older persons in the active population and, furthermore, the

quality of education tends to improve over time. Business benefits from this relationship, and the level of entrepreneurship is higher when younger people dominate the labour market. In short, an increasing supply of younger labour is usually assumed to have positive effects on a country's economic performance. However, in poorer economies a predominantly younger workforce could become a social challenge instead of a socio-economic asset, particularly at times of very rapid population growth and fast phased urbanization of the kind described in the previous section.

Cincotta *et al.* (2002) have suggested that under certain circumstances a large proportion of young people in the population can be associated with the outbreak of political violence and warfare. The reason for this is that at times of population growth and steady urbanization, both state institutions and the educational system find it difficult to accommodate demographic changes due to lack of resources. Similarly, the labour markets of weaker economies simply cannot create new jobs at the same rates at which the young population grows. The result is excess unemployment among the younger generations and a great deal of frustration in this population category. When there are 'too many young men with not enough to do...' in developing countries, historical data indicate a higher incidence of political violence and even warfare (Cincotta *et al.* 2002).

Cincotta *et al.* argue that in a historical perspective the incidence of increased political violence and warfare becomes prominent when the proportion of young people, ie, those aged between 15 and 29, is over 40 % of the adult population (those aged 15 and above).

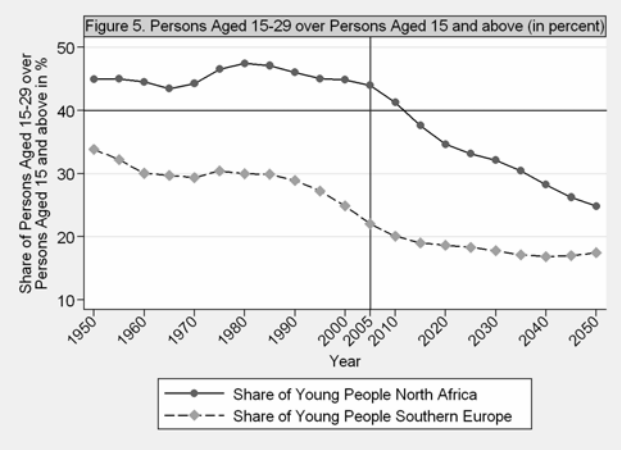


Figure 5 shows the development of the young population relative to the total adult population, according to the above definition, in North Africa and in Europe. As we can see, historically, North African countries fall well within the range whereby the risk for political violence and armed conflict is alleged to be high. We know that the region has seen a fair share of tension in the past, and it cannot be excluded that demographic factors are part of the explanation to the turbulence seen in the past in this region.

However, Figure 5 also shows that there are improvements ahead in this regard. Within the next ten years the share of the young population should drop below the 40 % threshold for the first time. Cincotta *et al.*'s findings indicate that this decline, in a historical context, should tend to coincide with major state reforms and the settlement of unresolved border issues.

This could be an indication that the demographic pressure posed by the younger population is fading in this region, and that the area is heading towards a more stable political development whereby unresolved conflicts might finally be settled. Nevertheless, the share of young people is expected to remain above the 40 % threshold for a further ten years. That is, the large share that young adults represent in the North African population should still be notable and thus capable of causing a great deal of stress on the region's political systems, particularly if the labour market fails to absorb it and economic growth is absent

in the years to come.

Population Growth and the Labour Market

By far the most important challenge ahead for dealing with the demographic and economic transition is to successfully absorb the explosive growth of the working-age population. The increase in the population means that each new generation outnumbers the preceding one. The greater the growth rate the larger is the difference in size between the two generations. Rising birth rates have a lagged effect on the labour market. It takes around twenty years for each new cohort to reach an active age. Thus, the North African labour market is currently faced with the problem of absorbing the birth cohorts born around 1985. In 1985 North Africa's total fertility rate stood at six children per woman compared with around three today.

As the new and larger birth cohorts reach an economically active age, the country has to develop its capacity to absorb the increase. Figure 6 illustrates the magnitude of the problem in North Africa and contrasts it with simultaneous developments in Southern Europe. The focus on Figure 6 is on labour force turnover rates, ie, the number of people entering active age (in this case those turning 20-24 in the next five-year period) minus the people exiting active age naturally (in this case those turning 65-69 in the next five years).

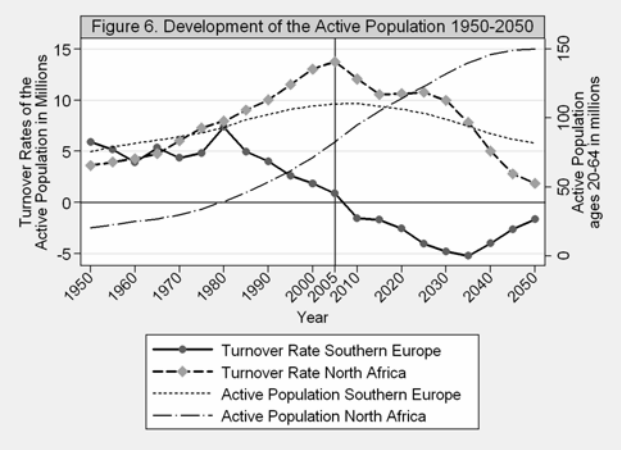


Figure 6 shows some impressive patterns of change. North African countries have experienced an uninterrupted increase in the number of people entering active age in each five-year period. The increase peaks between 2005 and 2010. Those turning 20 will exceed the people turning 65 by approximately 14 million people in North Africa. Thereafter the net increase should stabilise at around 10 million people in each five-year period and after 2030 the speed of the increase is expected to decline and finally approach zero.

If labour force participation rates were at 100 % for people in active age the above increase would mean that 10 million new jobs would have to be created in each five-year period. However, participation rates in the area of 100 % are not a reasonable assumption. For example, World Bank data show that of the total labour force in North Africa (people actually employed) only around 32 %-33 % are females. Thus, for simplicity's sake, we shall assume that an average participation rate of 70 % is a reasonable target rate for the total population aged 20-64 in the region, and that the jobs held by those leaving the active population are recycled. Under these assumptions approximately 7 million new jobs would have to be created every five-year period over the coming decades in order to absorb the increase in the active population. The task is not impossible, but surely difficult.

Judging by past experience, the region has been relatively successful. Between 1999 and 2003 the total labour force (those actually employed) grew by approximately 6.5 million according to World Bank employment data. The question is: can the region sustain this pace in the future also? Studies on these issues tend to be pessimistic. The level of

sustained yearly economic growth required to absorb the rapidly increasing labour supply is just too high for any of the countries' current economic capacities (Noland and Pack 2004). North African countries have relatively closed economies with little or no western involvement. What is more, public opinion in the region is strongly against western influence. To attain stronger economic growth North African countries must become more integrated in the world economy. This suggests that deeper economic reforms must accompany their efforts to provide new jobs. Given the current state of affairs, this is probably not a change that will be brought about without generating significant tension.

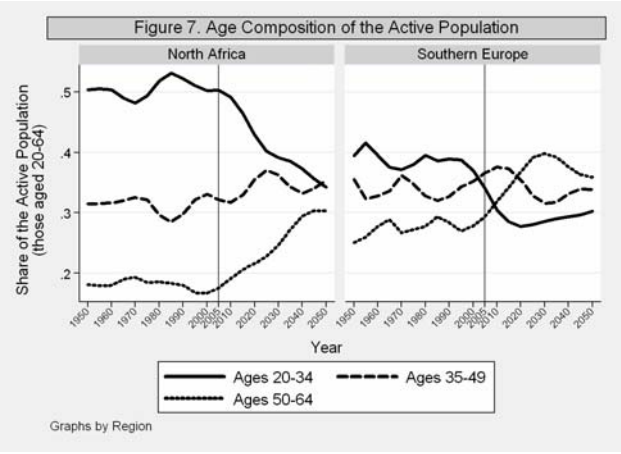
Figure 6 also shows the size of the population in active age by year. Between 2005 and 2030, the total number of people in active age is expected to increase by between 60 and 70 million to reach 150 million by the year 2050 if the UN's medium forecast proves to be accurate. That is, the size of the population in active age almost doubles over 30 years.

In contrast, developments in Europe are the reverse. Since 1980, there have no longer been any increases in the number of people in active age. From 2010 onwards the active-age population will decrease. The accumulated decrease is expected to be as large as 30 million people by the end of 2050.

One of the consequences of this development is that the potential size of North Africa's labour market will be twice that of Southern Europe by 2050, compared with only two-thirds today. We can only speculate about the consequences of such a development, but if the North African economies are reasonably successful in absorbing their increasing labour forces, and if economic reforms are possible, the weight of North Africa as an economic player in the Mediterranean region could improve. However, failing in this task could have far reaching negative consequences for the countries in the region and for their neighbours.

Increasing Labour Supply and Increased Competition over Jobs

It is not only the growth in the potential labour force that is a potential source of problems. The composition of the group of people constituting the active population is also important. I have already shown the extreme development in the size of the active population. This implies an enormous rise in the level of competition for jobs, which might result in wage cuts and possibly serious discontent among the active population. However, there are qualitative aspects to be considered when treating the rise of competition in the labour market and the need to create new jobs.



One aspect that could have more or less serious competitive implications is the age composition of the active population. One way to study this phenomenon is to divide the active population into groups according to their ages.

Figure 7 shows an example of such a grouping procedure. As we can see, there are significant changes ahead with regard to the composition of the active population in the two regions. The magnitude of the changes is such that they are likely to heighten the

competition in the labour market as well as affect the performance of the market.

In the period 1950-2000 the youngest age group (those aged 20-34) dominated the labour market on both shores of the Mediterranean. On the North African shore they made up the majority of the active population. In Europe they constituted around 40 % of the people in active age. As the demographic transition advances this is now about to change dramatically.

On the European side, in less than ten years the group aged 20-34 should rise from being the active population's largest segment to become its smallest sub-group. On the African side the change will be even more dramatic in absolute terms although, despite a sharp decline, those aged 20-34 should continue to be the active population's largest sub-group throughout the period observed.

At the same time, we can see a sharp increase in the active population's oldest sub-group. In the case of Southern Europe, from 2020 onwards this sub-group should be the active population's largest, with a 40% share, while in North Africa it should make up around one third.

There are several important considerations to be drawn from these findings. Perhaps the most obvious is that the labour markets in both sub-regions are becoming increasingly dependent on older workers. This has implications as far as productivity is concerned, since the predominant way of raising productivity is to provide better or improved education for the younger generation before it enters the labour market (Becker *et al*. 1990). With a shrinking share of the labour force in the younger age cohorts, national industries can no longer benefit to the same extent from the improved human capital provided by public education to the same extent they did in the past. This is particularly true for Europe, which is facing a substantial decline in the supply of younger people as the much smaller birth cohorts, born in the 1970s and 1980s, enter the active-age population. In Europe, much more than before, raising productivity levels is becoming a matter of honing the skills and knowledge of the older work force.

In North Africa the structural shift poses a somewhat different problem. As we have seen, the size of North Africa's labour force is expanding fast. The population explosion that North Africa experienced over the last fifty years has so far made older people a rare commodity in modern North Africa. As the population ages, the population explosion comes to encompass older ages also, with the consequence that people aged 50-64 are starting to become a significant force in society. As this group increases in number the competition between younger and older workers is likely to increase too.

Another reason why this group is becoming more numerous so quickly is the much improved life expectancy in the region. It is not until 2005 that life expectancy in the region should be above 65 years, and as short ago as 1950 life expectancy was only 40 years. Thus, historically the 50-64 age group has been underrepresented in the active population for the simple reason that many people died before reaching the age of 50 or in age interval 50 to 65. Older workers are, in other words, a new phenomenon in North Africa and it is probably too soon to tell exactly how the sudden appearance of older workers in the labour market will come to affect the chances of other active-age individuals.

There are several possible scenarios. There should be an increasing incidence of young people outcompeting older workers both as a result of their better education and because they are usually cheaper to employ than older workers. Such a scenario would lead to rising unemployment among older workers, which could then lead to either an increase in the emigration of older workers, a relatively unknown phenomenon so far, or to a growing support burden for the younger generations.

It is also possible to imagine an inverse scenario, in which there is a low turnover in positions occupied by older workers, when it was previously high, as a result of older workers living longer and thereby enjoying an extended working life. A lower turnover in jobs occupied by older workers decreases the demand for workforce replacements. This implies that younger workers can face increasing difficulties to enter the labour market, leading to rising unemployment among the young. If lower turnover rates coincide with the incapacity of North African countries to create sufficient jobs to match active-age population growth, the result could easily be mass unemployment among the young. This would no doubt increase the potential for emigration and population movements among this group. Of course, nothing prevents the two opposing scenarios from operating simultaneously.

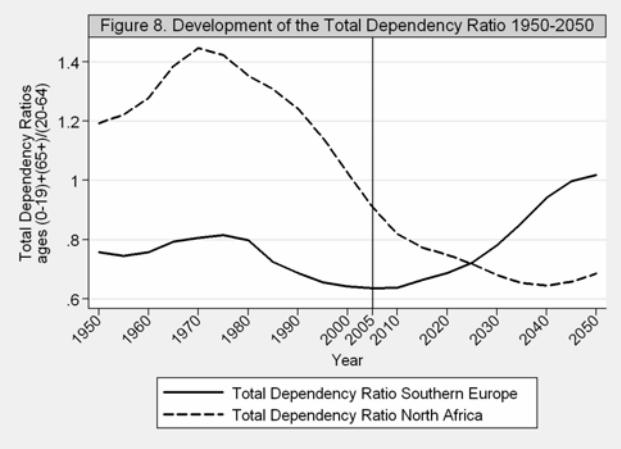
Figure 7 also provides empirical evidence of the increasing potential for the type of intergenerational conflicts in Muslim societies that Fargues (1993) warned about in the early 1990s. Fargues (1993) argued that fundamental Islamism and rural-to-urban migration have spread in a similar pattern across time and space in Muslim countries. According to Fargues (p. 15-17), high unemployment and rapid urbanization in combination with the prolonged coexistence of succeeding generations, making fathers and sons compete for their livelihoods, causes an intergenerational conflict whereby the younger generation is for the first time refused a smooth succession to their fathers when reaching adulthood. This mix gives rise to a generation of frustrated young men, who reject their fathers' ideology and turn to Islam for refuge and in the hope of overcoming their strained economic situation.

The increasing competition between succeeding generation suggested by Figure 7 could lead to exactly the type of frustration in the younger generation and the upsurge of Islamism predicted by Fargues (1993). Whether or not this is the case, the greater potential competition in the labour market is likely to be a significant source of other types of tension in North Africa's societies.

Nor should we ignore the risks of tension and conflict in Southern Europe as a result of demographic changes in North Africa. As indicated, we cannot exclude the possibility of large-scale population movements from North Africa to Europe as the competition for jobs becomes tougher in the African labour market. While Europe certainly has the capacity to receive immigration from North Africa, it is probably not in a position to accommodate mass immigration. We have already seen some signs of inter-group tension between a growing immigrant community and Europe's native population (notably in France and Holland). Mass immigration would aggravate the problem and eventually bring about a more open confrontation between immigrant minorities and their host societies (Homer-Dixon 1991).

Southern Europe also faces a serious challenge in its ageing population. Dependency ratios are a good proxy to describe the ageing process haunting Southern Europe. We obtain the

total dependency ratio by adding the number of young people (under the age of 20) to the number of old people (aged 65+) and divide the sum by the number of working-age people. The first two categories are often (but not necessarily) economically dependent on the third. Thus, a high dependency ratio indicates that the economic burden on the working-age population is high, and the reverse if the dependency ratio is low.



As we can appreciate from Figure 8, Southern Europe is experiencing a high point in terms of its dependency ratio. Never before have so few been dependent on so many in Europe. This is now changing. As the post-war baby boom generations in Europe start to reach retirement age, the much smaller birth cohorts resulting from stable below-replacement fertility levels from the 1980s onwards will start to enter the working-age population. The result is a decline in the working-age population and a rising number of people in retirement age. Together, these two trends will cause a sharp increase in Southern Europe's dependency ratios throughout the first half of this century. There is a general agreement that the rising dependency ratio in Europe will, among other things, make Europe's generous pension schemes unsustainable in the very near future (Sandell 2003, Herce 2001).

This calls for some uncomfortable reform work, with welfare states having to come up with alternative ways to finance pensions. Germany and France have already announced changes amid mass political protest. Rough times are still ahead and it could be expected that more than one government will have fallen before Europe's political reality catches up with its demographic reality. Failing to solve the ageing problem could trigger an extraordinary economic crisis (Reher 2004, Jackson and Howe 2003). The increased economic burden could easily lead to a situation of relative deprivation, whereby both people in working age and in retirement would see a continuous economic deterioration and a contraction in the benefits provided by the welfare state. This could lead to rivalry between different groups in society as they can be expected to try to maintain a constant standard of living despite decreasing economic resources (Homer-Dixon 1991). If such a rivalry should emerge amid a wave of mass immigration the situation would be even further complicated.

Figure 8 is not only bad news. As Europe starts to experience a rise in total dependency ratios, North African states can still expect to see continued massive declines in their dependency ratios with, as yet, no signs of real ageing problems. The significance of this mismatch should not be underestimated.

Clearly, the favourable development of North African dependency ratios is likely to provide new opportunities in the region. In the past, North Africa had to face a situation in which over half of its population was under the age of 15. As North Africa now faces decreasing fertility levels, the share of young people over the share of those in working age is declining rapidly. This opens up the possibility of freeing resources that have traditionally been earmarked for maintaining large families and instead favouring

investment, development and saving. All things being equal, the demographic leverage provided by falling dependency ratios in North Africa means that in the future it will take a smaller increase in income per worker to produce a larger increase in income per capita (Malmberg and Lind 2004, Bloom and Freeman 1986). These resources could prove to be vital when coping with the problems caused by the depopulation of the countryside as well as facilitating adaptation in urban areas. And perhaps the falling dependency ratio is an early indication that the time has come for North Africa to achieve sustainable economic growth and reduce the economic gap with its rich neighbours to the north.

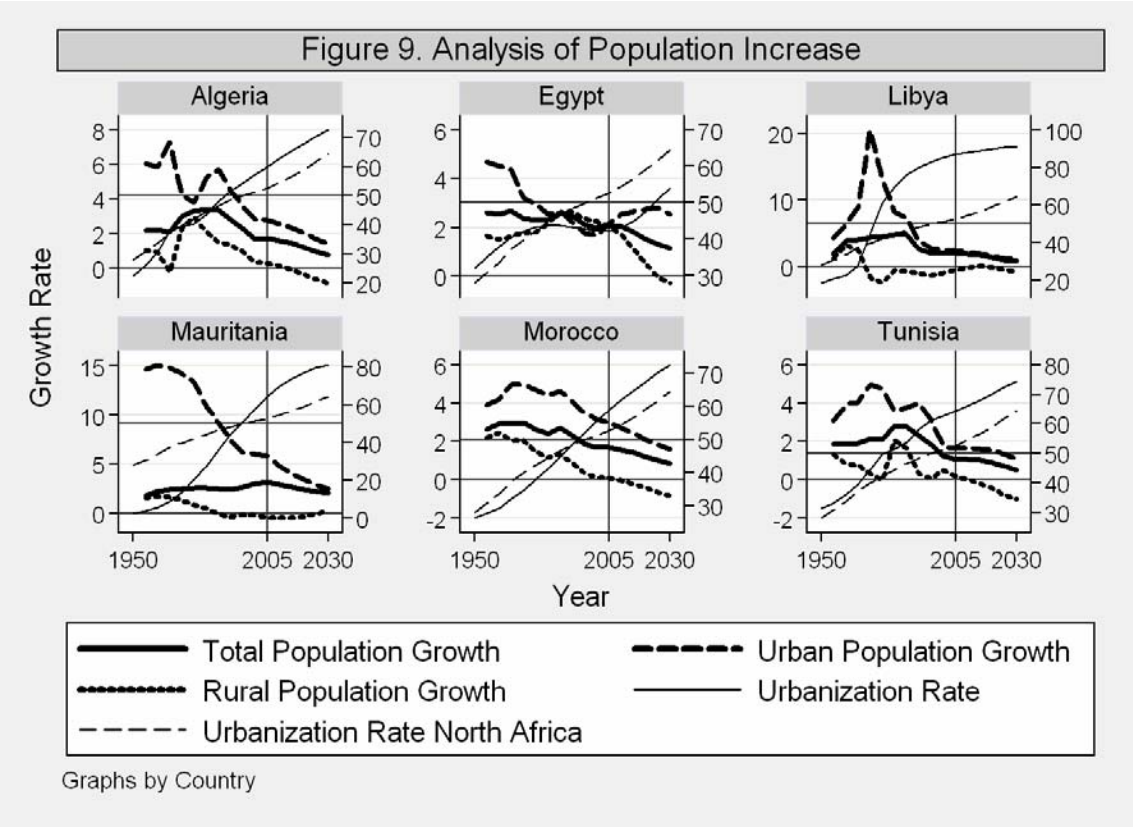
National Indicators of Demographic Change

So far I have treated North Africa as a coherent unit. While this is justified for many reasons it is also an inherent simplification of reality. There are no doubt many similarities between the countries in North Africa, but there are also implicit and explicit differences. Thus, in the following chapter I will briefly deal with some of the demographic problems highlighted above on a country-by-country basis, classifying each country depending on how well or how poorly it fares compared with the others. The purpose of this analysis is to identify where and when the greatest demographic risks are likely to emerge.

Figure 9 shows the development of population growth and urbanization across the six North African countries (compare the analysis in relation to Figure 4). Just as we would expect, the general trend is towards slower population growth and growing urbanization in all six countries. Of the six countries, Egypt is the one to stand out in this comparison.

Egypt has the by far the largest population of all North Africa. In contrast with the other countries, Egypt has experienced homogenous growth in rural and urban areas up until 2005. The result is a much slower urbanization process than in the others. Egypt's level of urbanization is around ten percentage points lower than the regional average (in 2005 around 40 % of Egypt's population will live in urban areas compared with the regional average of 50 %.)

Given the relative weight of Egypt's large population this means that the regional analysis explained above somewhat underestimates the level of urbanization in the majority of countries in the region. For example, Morocco and Algeria, the other two countries with relatively large populations, currently have an urbanization rate that is 10% above the regional average. Hence, around 60 % of the inhabitants of Algeria and Morocco live in urban areas, rather than 50 % as suggested by the regional average. Furthermore, smaller countries like Tunisia, Libya and Mauritania have urbanization ratios of over 70 %.



It should be highlighted that Libya has an urbanization ratio above the Southern European average. Similarly, Libya reached a high level of urbanization several decades before the other countries in the region, so speed of urbanization is no longer an issue. Tunisia is experiencing a similar development to Libya, with the speed of urbanization starting to slow down.

What conclusions can be drawn from the persisting country differences observed in Figure 9? First, problems related to poor economic performance and rapidly increasing urbanization rates as discussed above are currently more likely to be present in Algeria, Morocco and Mauritania, than in the other countries in the region.

Libya and to some extent Tunisia are experiencing increased stability in their urbanization processes or, to put it differently, urbanization has almost been completed. This should improve both countries' capacity to more effectively adjust to their new demographic reality.

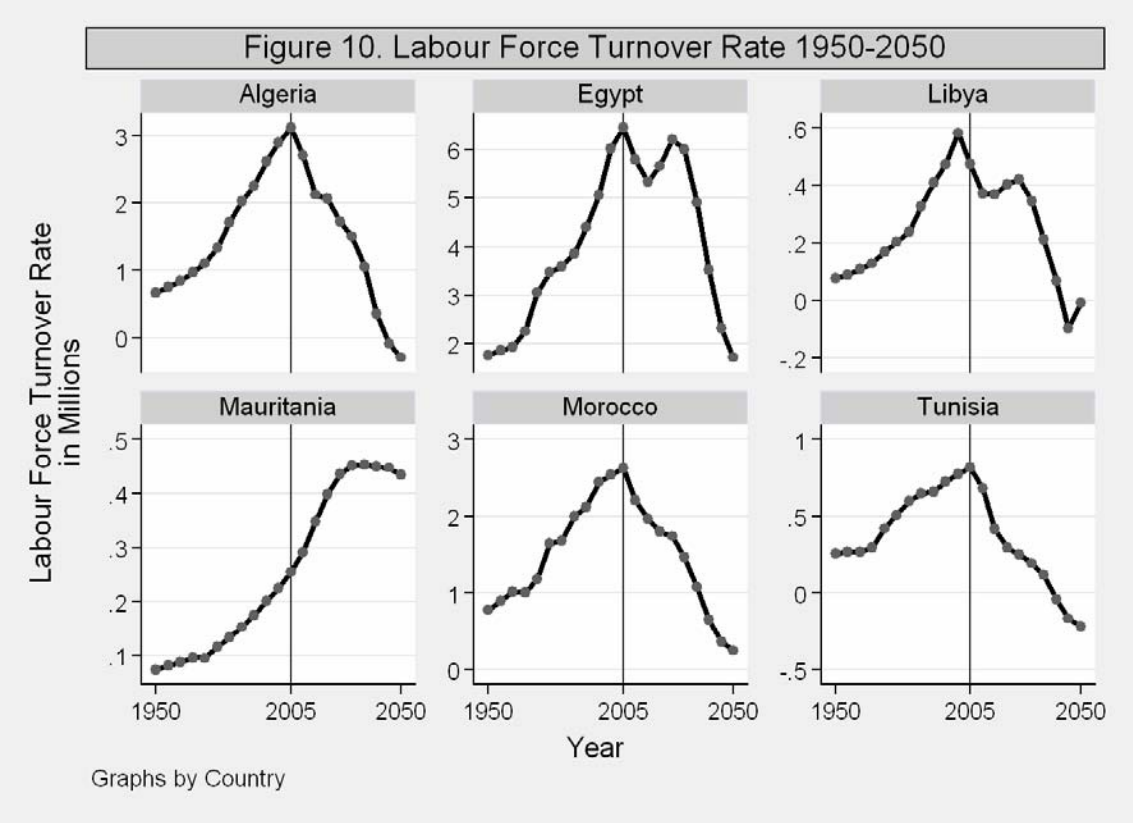
Secondly, the region's largest country, Egypt, has not yet been exposed to the winds of demographic change to the same extent as most other countries in the region. As Figure 9 clearly shows, this is soon about to change. Egypt is the country in North Africa which will see the most profound changes in the half century ahead of us. We can only speculate about the consequences of these changes. However, it seems reasonable to assume that Egypt could overtake Morocco and Algeria as the North African country with the highest emigration potential, as Egyptian society changes from being markedly rural to being urbanised.

Egypt is by no means new to emigration. If anything, its emigration is different from that of the other countries in the region. Instead of targeting Europe, Egyptian emigrants have

preferred the countries in the Persian Gulf. However, if population pressure increases, Egyptian emigration flows could change direction and start to target Europe to a much higher degree, particularly if the outlook of finding a job in the Gulf becomes more difficult. Instability in the Persian Gulf is making this more plausible. Added to this, many countries in the Middle East are themselves experiencing increasing demographic pressure, so Egyptian migration preferences might easily change in the near future.

Egypt is also likely to become more exposed to political problems following the urbanization process described earlier in this paper. Since it is by far the largest country in the region its demographic transition is in relative terms more complicated and could come to influence neighbouring countries to a higher degree, since more resources are needed to cushion the effects on Egyptian society of increased urbanization.

The same heterogeneous pattern is also evident if we focus on labour force turnover rates. Recall from Figure 6 that I defined the labour force turnover rate as those entering the active population (those turning 20-24 over a five year period) minus those leaving it (those turning 65-69 over a five year period). The result gives the increase or decrease in the active population in five-year periods. The measure is a rough indication of how many new jobs a country needs to generate in order to absorb a growing active population. Figure 10 shows the region's labour force turnover rate by country.

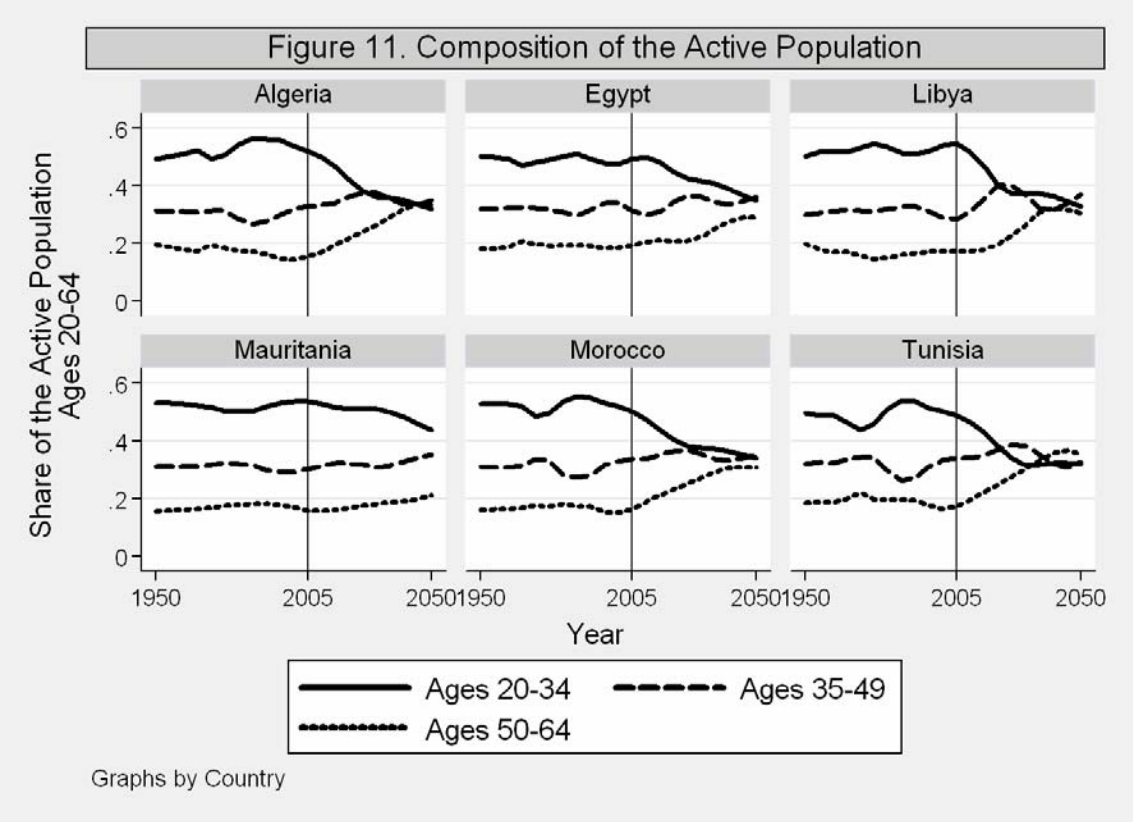


From figure 10 we can see that all North African countries are facing substantial pressure as regards their capacity to create new jobs to absorb a growing active population. With the exception of Mauritania, never before has the active population in North Africa grown so fast in absolute terms.

Starting from the period 2010-2015 the speed of the increase in the active population

should slow down dramatically in many North African countries. However, the slowdown should not be misinterpreted. All countries should still see substantial increases in the size of their active population for most of the period. Hence, absorbing increases in the active population, through job creation and the economic pressure implied by it, is and should continue to be the perhaps the most important political and economic challenge for much of the coming half century if North African countries are to succeed in adapting to their new demographic reality.

Despite a clear trend across countries towards slower growth of the active population there are some important differences. Egypt, which in absolute terms faces the largest challenges, is seeing a substantial delay in its projected slowdown. While most countries should see slower growth already in 2010, according to UN projections Egypt will not experience a sustained slowdown until after 2030.

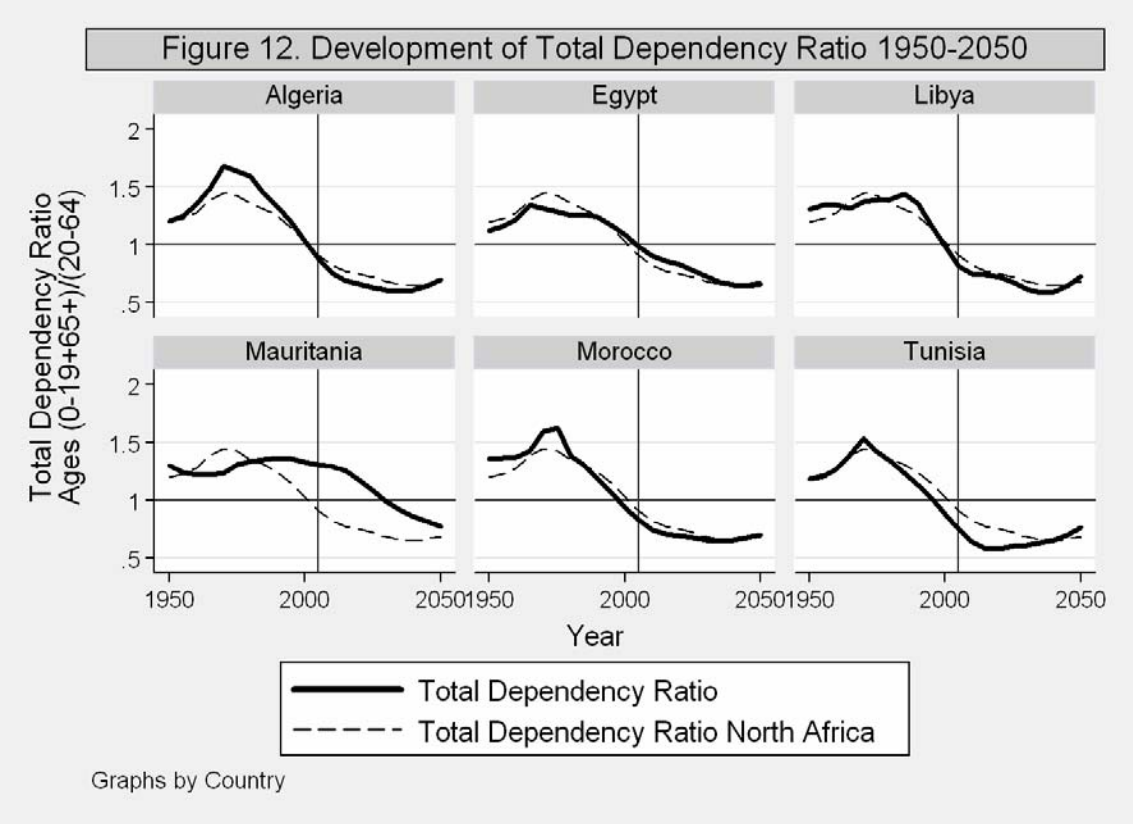


Given that Egypt's share of the absolute increase in the active population is almost as large as that of all the other countries together, this deviation in development patterns could be crucial for the development of the region as a whole. As already mentioned, one of the consequences of rapid urbanization and rapid growth of the size of the labour force is higher competition for existing and new jobs as and if they become available. The fact that Egypt's peak in active population growth extends over a period of 30 years puts Egypt's economy to a serious test as to its capacity to absorb a growing active population. This introduces a greater risk of failure and consequently a higher risk of population movements than in other countries in the region. It could also give rise to a prolonged risk of political unrest among the population and a higher than normal risk of rebellion and acts of violence as explained in the earlier sections of this paper (Fargues 1993, Cincotta *et al.* 2002, Homer-Dixon (1991).

Egypt and Mauritania also stand out when scrutinising the other demographic indicators used in this analysis. For instance, the comparison of intergenerational competition (see Figure 11 and compare the analysis in relation to Figure 7) shows that Algeria, Libya, Morocco and Tunisia are ahead of Egypt and Mauritania in terms of the demographic transition.

In the case of Mauritania, it could even be said that the demographic transition has barely started. Although, Mauritania is seeing a spectacular increase in urbanization ratios (see Figure 9) and is more advanced than Algeria and Morocco in this regard. Algeria, Libya, Morocco, and Tunisia are facing immediate changes in the composition of their active populations.

On the upside, however, is that the same four countries have a better outlook with regard to the development of their dependency ratios, which should be below the regional average for most of the half century ahead of us (see Figure 12).



To conclude our country-specific discussion, the present analysis suggests that there are small but important differences between the North African countries. These differences primarily concern the timing of the demographic transition. The six countries fall into three different categories.

In the first category are Libya and Tunisia. These two countries are the most advanced with respect to the demographic transition. This does not mean that they are free from the demographically related problems discussed in this paper: this is clearly not the case. Instead, Libya and Tunisia are equally or more exposed to other countries in the region to problems derived from demographic change in the immediate and short term. Urbanization has or has almost been completed in both countries. Their primary concern for the

immediate future is absorbing the growth of their active population and dealing with the rapidly increasing intergenerational competition in the labour market.

In the second category are Morocco and Algeria. These two countries are experiencing the most intense part of the demographic transition. Urbanization is still very rapid, and the capacity to absorb their growing active population by providing labour is put to a serious test as active-population growth should peak over the next five to 10 years. Hence, in the short and medium term Algeria and Morocco are facing perhaps the greatest risk of demographically related problems of all countries in the region, partly because they are large countries, but mainly because they are exposed to rapid demographic change in all the dimensions explored in this paper.

In the last category are Egypt and Mauritania. While both countries certainly face short-term risks, since Egypt's active-population growth is reaching a peak and since Mauritania's urbanization rate is one of the fastest and most advanced in the region, the main demographic concerns for these two countries are medium and long term. Because Egypt is the regions population giant this is a major concern when assessing the development of the region as a whole.

For example, once urbanization has been completed in most of North Africa, Egypt will not be likely to be more than half way into the process. Similarly, Egypt should see sustained growth of its active population for much of this coming half century, while its neighbours should see a substantial slowdown. The demographic scenario facing Egypt suggests that it must be able to generate extraordinary economic growth for a prolonged period. Failing in this will result in higher unemployment, a higher risk of political unrest and an increased potential for population movements, particularly if economic growth remains slow and political instability prevails in the Middle East.

Conclusions

The demographic transition period we are currently experiencing promises to be exciting, but also threatens to be potentially dangerous, with an increasing likelihood of friction and contention, both nationally and internationally, as individual countries try to cope with their new demographic situations.

We can only speculate about the nature of the conflicts and tensions that might result from the changes in population in North Africa and Southern Europe. The literature on the topic is far from being unanimous. Empirical evidence is also hard to come by since the population increase that we are now seeing is extreme in a historical perspective (McNicoll 1984).

Despite the inconclusive evidence regarding the relation between demographic developments and security, there seems to be a general agreement about two issues. First, any conflicts and tension arising from demographic changes are likely to have both national and international ramifications (Homer-Dixon 1991, Bloom and Freeman 1986, McNicoll 1984). Secondly, there is the possibility that population developments might result in armed conflict (Tir and Diehl 1998, Cincotta *et al.* 2003), although the risk is judged to be relatively small (McNicoll 1984, Simon 1999). However, the potential for the spread of fundamental Islamism or other extremist movements should not be underestimated and such developments are probably the main hard security threat to be generated by current demographic developments (Fargues 1993). In any case, demography

is nothing but a small explanatory component of this complex problem.

Even if it is hard to tell with any certainty whether demographic developments in the Mediterranean region are dangerous or might give rise to more or less serious conflict, we still have to make a choice. Do we want to take the risk of doing nothing and simply sitting back, observing and dealing with any strategic problems as they occur?, or do we instead try to eliminate some of the causes to the potential problems before they emerge? Since we cannot exclude the possibility of more serious types of conflict, it is probably a good strategy to become involved in the problems, whether we would like to or not. Simply waiting for the worst to happen and then acting will not only be more costly but will delay the development of the Mediterranean region for many years.

If Europe chooses to become involved in remedying some of North Africa's demographically-related problems, the timing is also important. Since Europe's population problems partly coincide in time with Africa's, we can expect the former's capacity to devote resources to the latter to become more limited as time passes. We are now in a window of opportunity. Within ten to fifteen years Europe is expected to enter a more costly period of its demographic transition as the ageing problem accelerates and the active population starts to decline. This means that it will become increasingly difficult for Europe to take effective action to prevent demographically induced problems from emerging in North Africa even if it wants to. If Europe opts to get involved in solving for some of the demographically-related problems emerging in North Africa the time is now. And, given the nature of the type of problems that might emerge and the geographical proximity of the region, from a strategic point of view it might be a good investment to use this window of opportunity to put in place the necessary mechanisms for overcoming some of the security risks arising from North Africa's demographic risks.

The question is, of course, what Europe can and should do. The most obvious consequence of a general failure to accommodate the new and emerging demographic reality is no doubt a large-scale population movement. This does not necessarily have to be negative. As we have seen, Southern Europe and North Africa are facing contrary developments in the size of their labour markets. Hence, there is a potential for mutual benefit in population movement. Southern Europe is at risk of experiencing labour supply shortages, while North Africa risks facing an excess labour supply. Thus, just as older European countries relieved some of the strains of industrialization at the end of the 19th and the beginning of the 20th centuries by mass emigration (Kuznets 1973), Southern Europe could now consider offering North Africa a similar escape valve, and at the same time tap into the excess labour supply to remedy its own emerging demographic deficits.

The problem, however, is that Europe can hardly sustain mass immigration in the medium and long term without risking a more serious confrontation between immigrants and natives (Homer-Dixon 1991). Consequently, immigration is probably not the solution to the problem, but rather one option to remedy part of the demographically-related problems experienced in Southern Europe and North Africa. Furthermore, the process would have to be carefully and effectively managed.

The only way to seriously tackle the problems stemming from rapid population growth in North Africa is to adopt an integrated approach. To cope with new demographic realities on the shores of the Mediterranean, both sides need to show good leadership. North Africa primarily faces problems related to the scarcity of resources such as food and water. But it

is also confronted with a lack of resources to accommodate its rapidly growing urban population. The main obstacle to the latter is poor economic growth. Europe is hardly responsible for the lack of economic growth in North Africa, but it probably contributes to the situation indirectly. Much more can be done to improve economic growth in the Mediterranean region as a whole. The differences between the developed and the developing shores of the Mediterranean are on the increase. This makes the region unique, since other important border areas where the developed and developing worlds meet are experiencing a closing of the gap (Moré 2003). Halting this trend is the only feasible way to avoid increased tension as a result of differential demographic developments in the Mediterranean region.

The problem, however, is that Europe alone cannot trigger economic development of the necessary scope to absorb the rapidly growing supply of labour in North Africa. The type of economic growth required to counteract North Africa's problems can only be brought about by economic reforms and change whereby the North African economy becomes significantly integrated into the world economy. This may seem unproblematic and even straightforward, but herein lies the problem. Many of the North African states do not like to see the increasing western influence implied by a more open economy that is capable of sustained high growth (Noland and Pack 2004). Thus, it is important to overcome the reluctance to change that prevails in many North African states.

Most likely, this can only be brought about by a serious commitment by Europe of the type seen in its relations with, for instance, Turkey and other accession states such as Romania and Bulgaria. This does not imply membership of the European Union. The European Union could offer real incentives, including access to the common market without offering full membership. The Barcelona process is an example of such a programme, although it is hindered by a lack of resources and perhaps even political commitment. The idea of creating a free-trade area in the Mediterranean region is, however, a prerequisite if the conditions for sustained economic growth in North Africa are to become more than just wishful thinking. Without a serious commitment of this type North Africa is unlikely to embark on any major reforms simply because the ruling elites have nothing to benefit from change.

In addressing the demographic problems in North Africa, there are some important differences between the countries that make up the North African region. This must be considered if Europe decides to become involved. It is accepted that all the countries in the area are facing substantial demographic pressure throughout the period observed. From a strictly demographic point of view, in the short term, Algeria and Morocco have a less favourable demographic outlook than for instance Libya and Tunisia, but in the medium and long term Egypt emerges as the country with the roughest road to its demographic transition. Considering Egypt's strategic location, with its proximity to the Middle East, there is an even greater risk of political unrest as a consequence of its demographic situation, with the possibility of even wider implications for an already troubled corner of the world. So far, much of the attention has focused on the Maghreb. To be successful in addressing the potential strategic risks posed by North African demographic developments it is wise to keep Egypt in mind.

Finally, what should Spain's role be and why should it consider involvement? The question is simple. First, and as to why, whether conflicts are soft or hard they have repercussions for everyone in the vicinity, although not all are affected in the same way or

to the same extent. It is rather like an earthquake: the closer one is to the epicentre the more the earth moves. Spain is without a doubt the Southern European country that is closest to any potential problems in North West Africa and it can be expected to be directly or indirectly affected by any disturbances. This includes countries such as Algeria, Tunisia Morocco and Mauritania. In short, Spain is the natural gateway to Europe from North Africa and it is the country with the highest stakes for a potential involvement in conflicts in the region. Secondly, Spain has a record as a mediator in dealing with North African countries and it has long-established diplomatic relations and a historical presence in the region. This is an important asset for any negotiations between North Africa and the European Union and qualifies Spain as a natural leader in any initiatives on behalf of Southern Europe in North Africa.

Rickard Sandell
Senior Analyst, Demography, Population and International Migration, Elcano Royal Institute

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