

DEMOGRAPHIC DIVIDEND IN EGYPT: WILL WE CATCH THE OPPORTUNITY OR STAND IDLY BY?

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Abstract: As Egypt transitions from high to low fertility and mortality, the country's age structure shifts in a way that can yield economic benefits, often referred to as the demographic dividend. This dividend accrues when the population of working age increases relative to the population in the dependent ages—the young and old. At first, there is a cohort of children that includes many who would previously have suffered an early death. This baby-boom generation is unique. As fertility rates decline and families grow smaller, successive cohorts tend to be smaller. The result is a bulge in the age structure, a demographic wave that works its way through the population.

However, this paper aims mainly at recognizing the impact of demographic transition on age structure in Egypt, therefore, exploring what should be done in future policies. The study approaches the UN Population Division regarding future trends in fertility, mortality, and migration to project population of rural and

urban Egypt until 2050, hence defining the expected interval of demographic dividend. As fertility rates fall during the demographic transition, a special window opens up for faster economic growth and human development in both rural and urban areas. The estimated time for demographic dividend to be started is 2015 for both rural and urban areas. The demographic dividend is expected to extend for 25 and 21 years only for rural and urban areas, respectively. During this interval, policy will be a significant factor in determining whether Egypt is to enjoy the demographic dividend. Openness to global trade, as well as policies to support employment and education, can help the country to absorb the baby-boom generation of workers into productive and remunerative employment. In other words, this demographic dividend is fully realized only where there are investments in health and education, appropriate economic and labor force policies, and a stable and effective government.

Keywords: Demographic dividend; Fertility transition; Age structure.

Introduction

Demographers contend that the decline in the dependency ratio and increase in the working aged population during the age structural transition, is a “demographic dividend” or “window of opportunity” invoked by the demographic transition (Feng and Mason, 2005). In other words, the demographic dividend refers to the opportunity for economic growth brought about by the increasing proportion of the working-age population during the demographic transition (Phang, 2003).

Simply stated, the demographic dividend occurs when a falling birth rate changes the age distribution, so that fewer investments are needed to meet the needs of the youngest age groups and resources are released for investment in economic development and family welfare (Ross, 2004). That is, a falling birth rate makes for a smaller population at young, dependent ages and for relatively more people in the adult age groups—who comprise the productive labor force. It improves the ratio of productive workers to child dependents in the population. That makes for faster economic growth and fewer burdens on families.

How does population change affect human development? Demographers, economists,

sociologists and policymakers have debated this question for decades. Three alternative positions define this debate: population growth “either” (a) restricts, (b) promotes, or (c) is independent of economic growth, therefore human development. However, Bloom *et al.*, (2002) reported that the demographic dividend is delivered through a number of mechanisms. However, the most important effects are labor supply, savings, and human capital.

1. Labor supply

It is argued that the demographic transition affects labor supply in two ways. First, there is an essentially mechanical effect, based on the regular and inevitable aging of the baby-boom generation. When this generation is between 15 and 64 years old (59 years old in Egypt), it is more likely to be economically active, thus lowering the ratio of dependents to non-dependents. Second, as family size declines, women are more likely to enter the workforce. This effect is magnified by the fact that, with adult women themselves more likely to have been brought up in small families, they are more likely to be educated. This increases their productivity in the labor market, leading toward a stronger workforce and smaller families.

2. Savings

The demographic transition encourages the growth of savings, thus improving a country's prospects for investment and growth. Higgins (1998) and Lee *et al.* (2000) stated that there is an accounting effect as well as a behavioral effect at work. The young and old consume more than they produce, whereas working-age people tend to have a higher level of economic output and also a higher level of savings.

3. Human capital

The demographic transition has significant effects on investments in human capital, effects which are the least tangible, but may be the most significant and far-reaching. The demographic transition begins with changes in mortality that results in a population that lives longer and stays healthier. A longer life expectancy causes fundamental changes in the way that people live. Attitudes about education, family, retirement, the role of women, and work all tend to shift. A society, especially if it is taking full advantage of the demographic dividend, is certain to experience deep-rooted changes in its culture, as its people become more valuable assets.

Among many countries experienced the demographic dividend, this study reviews the case of East Asian countries

since there is a similarity to somewhat between Egypt and those countries. In addition, the East Asian countries have experienced the most success in exploiting "demographic dividend" made available by reduced fertility (Mason, 2001). Its economic miracle offers some of recent history's most compelling evidence of the demographic dividend. The East Asian demographic transition occurred with relative rapidity, over a 50-75 year period- the fastest transition to date (Bloom *et al.*, 2002). Such transition was one of the critical factors in the region's spectacular economic growth (Bloom and Williamson, 1998). Per capita income rose annually by more than 6 percent between 1965 and 1990. One explanation for this phenomenal growth is that in the late 1960s, when the baby-boom generation- a generation that is larger than those immediately before and after it- started work, their entry into the workforce changed the ratio of workers to dependents in the population. With the benefits of a good education and a liberalized trade environment, this generation was absorbed into the job market and into gainful employment, thereby increasing the region's capacity for economic production. The region's working-age population grew nearly four times faster than its dependent population between 1965 and 1990. A virtuous spiral

was thus created, whereby population change increased income growth, and income growth pushed down population growth- therefore the numbers of dependents- by reducing fertility. East Asia's high saving rates were also affected by the demographic transition, as the baby-boom generation entered the workforce and parents had fewer children to take care of. However, many studies suggest that the demographic dividend accounts for between one-fourth and two-fifths of East Asia's economic miracle (Bloom and Williamson, 1998; Lee *et al.*, 2000; Mason, 2001).

Methodology

The approach adopted here is straightforward and simple. To project population of rural and urban Egypt until 2050, the study applies the assumptions of United Nations Population Division regarding future trends in fertility, mortality, and migration. Because future trends cannot be known with certainty, a number of projection variants are produced. The highlights focus on the medium variant of fertility. However, total population estimated to be consistent with the 1996 census and with estimates of the subsequent trends in fertility, mortality and international migration. Total fertility based on maternity-history data from the 1988, 1992, 1995, 2000 and 2003

Egypt Demographic and Health Survey (DHS) and from 1980 The Egyptian Fertility Survey (EFS). Life expectancy at birth derived from estimates of infant and child mortality. International migration based on estimates of net international migration, derived as the difference between overall population growth and natural increase during the 1986-1996 intercensal period.

Following the literature of demographic studies, the beginning time of demographic dividend is defined as the point when the dependency ratio and the size of natural increase are declining, the size of population less than 15 years old starts to decline, and the size of working age population is increasing. The ending point of demographic dividend is determined when the size of population aged 15-59 reaches its maximum value or the dependency ratio starts to increase again, whichever comes first.

Results and Discussion

1. Spatio-Temporal Patterns of Fertility in Egypt, 1965-2001

Variation in the level of fertility by type of place of residence is quite substantial. In 1965, the total fertility rate was 6.4 for women living in urban areas and 7.64 for those living in rural areas. At the turn of new century in 2001, total fertility rate decreased to 3.6 for women

live in rural areas and to 2.6 live births per woman in urban areas. However, as indicated in figure 1, fertility declined in both rural and urban areas through 1965-2001. It was most striking in urban areas where it fell by 59 percent, from 6.4 live births per woman in 1965 down to 2.6 in 2001. A sizeable reduction, 53 percent, was also reported in rural areas where total fertility fell from 7.64

in 1965 to 3.6 live births per woman in 2001. However, the Egyptian fertility transition began in the 1960s, and is well documented. It has occurred in both urban and rural areas Egypt, and is concurrent with economic and literacy improvements that have resulted in a radical change in the structure of employment and in the economic and social roles of women.

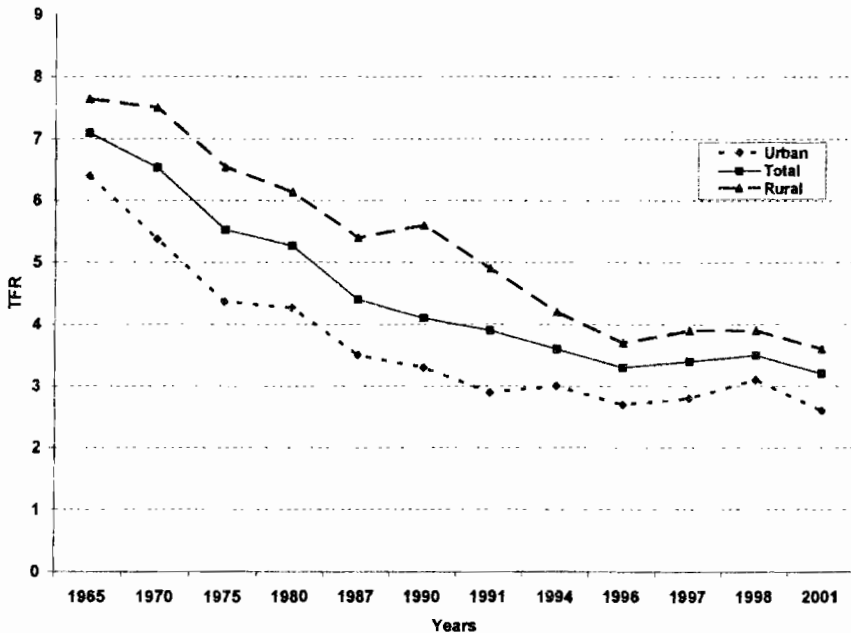


Fig.(1): Trends in fertility by residence, 1965-2001 (Source: El Zanaty and Way, 2004; Hallouda *et Al*, 1983)

2. Dependency Ratio by Residence, 1996-2050

The balance in the population between the active and dependent age groups will undergo substantial change in the next years. At its peak, based on the

projections applied here, the ratio of dependents (i.e. those under 15 and over 60 years) to the rest of the population will reach nearly 65% for urban areas in 2014 versus 64% for rural areas in 2017. It will be falling steadily

by then with the pace of decline quickening during the period 2015-2045 and 2018-2043 for both urban and rural areas, respectively. This change will be an important element of the economic stimulus that will be provided by demographic change in the coming years. Lower dependency is supposed to be accompanied by an increase in GDP per head and the capacity for discretionary expenditure in the economy increased as the burden of the dependent population lightened.

As indicated in figure 2, the dependency ratio will begin to rise again by 2046 in urban areas versus 2044 in rural Egypt. This result means that the demographic dividend in urban

areas will start by 2015 and end by 2045. The picture in rural areas looks similar to somewhat. The demographic dividend in rural areas is expecting to begin by 2018 and end by 2043. In other words, demographic dividend is expected to extend for 31 years in urban areas, versus 26 years in rural areas.

Given effective policies in all areas, this dividend can stimulate substantial economic growth. It is worth noting that policies should take into account the geographic dimension, since the study showed that the pace of demographic transition differs across regions in Egypt. Urban regions are expected to reach the demographic dividend faster than rural ones.

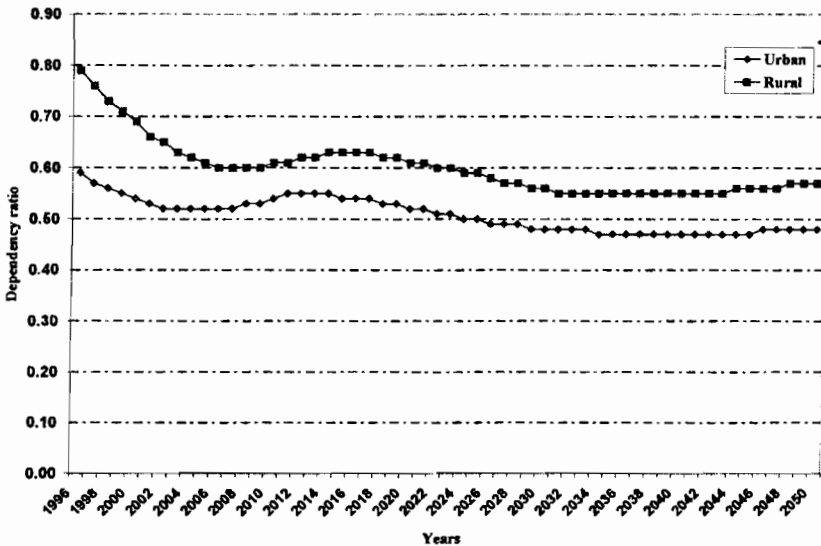


Fig.(2): Dependency ratio

3. Prospective Shifts in the Age Structure of the Population

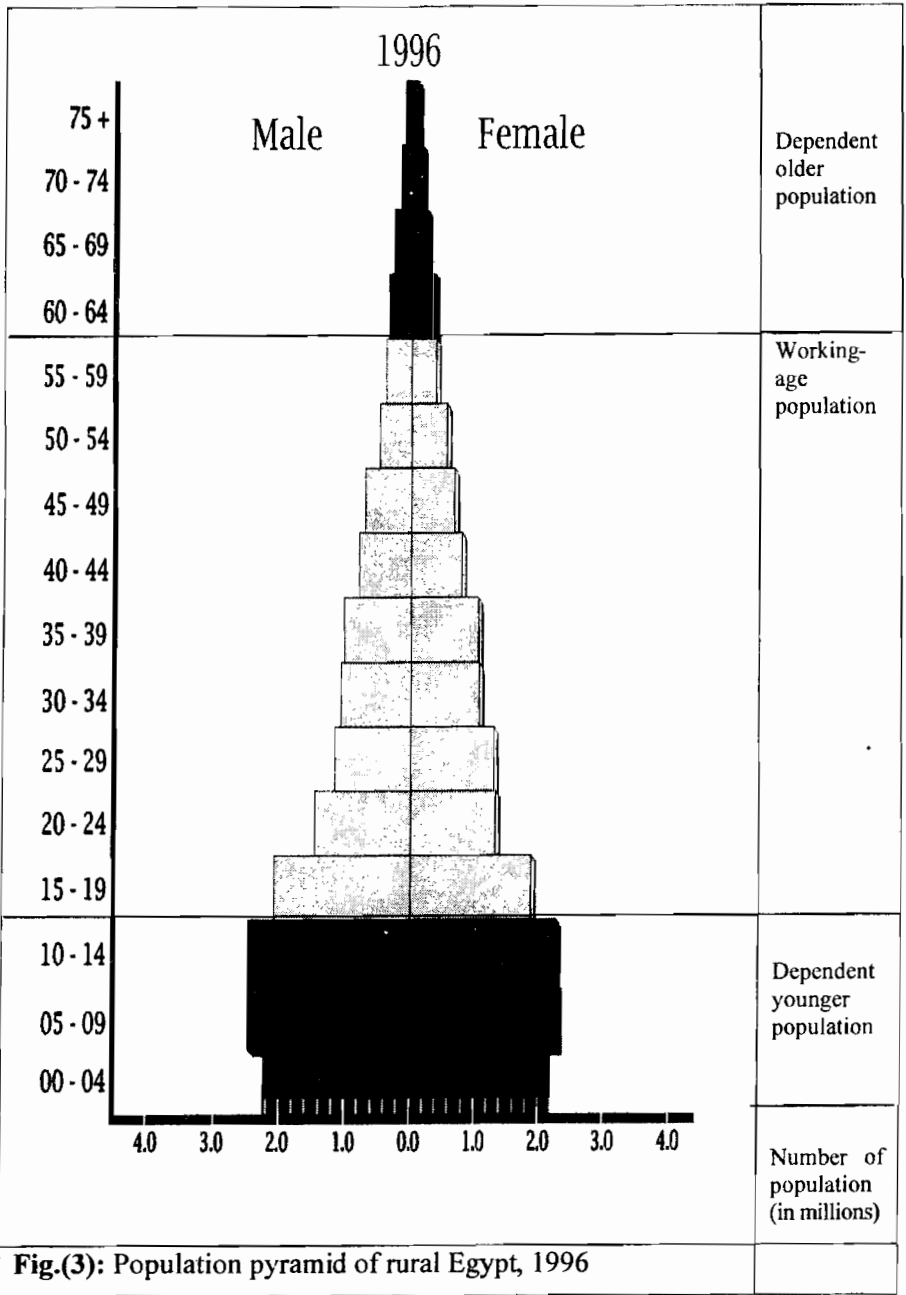
The age composition of a population is important for several reasons. The proportions of children and older persons have much to do with the balance of national expenditures on schools, childcare, immunization and reproductive health, as against expenditures on old-age social security systems and health care for chronic and degenerative disease. The ratio of the population aged 60 and over to the working-age population is a fundamental consideration in the design of public pension arrangements, and the ratio has its micro-level expression in the age structure of the family, affecting the possibilities for private care of children and older persons. Moreover, age structure alters the way in which the forces of fertility and mortality are expressed in rates of population growth.

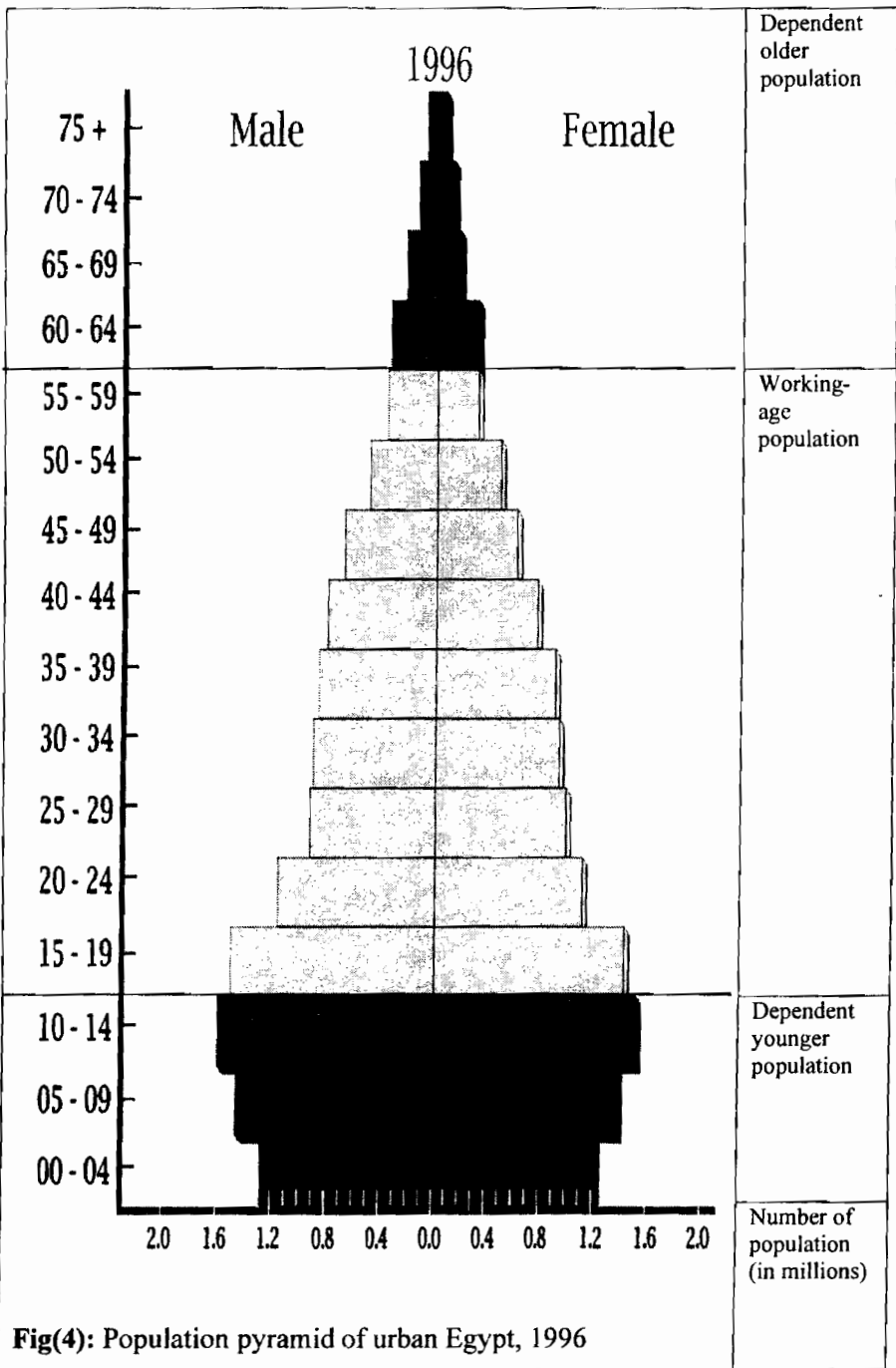
As shown in figures 3 and 4, the legacy of high fertility is clearly evident in the pyramid for the rural areas in 1996, whose wide base testifies to the relatively high crude birth rates found in those areas. Indications of recent fertility decline are apparent in the pyramid for the urban areas, which is drawn in at the base compared to that of the rural areas at the same year. However, variation in the age structure by type of place of

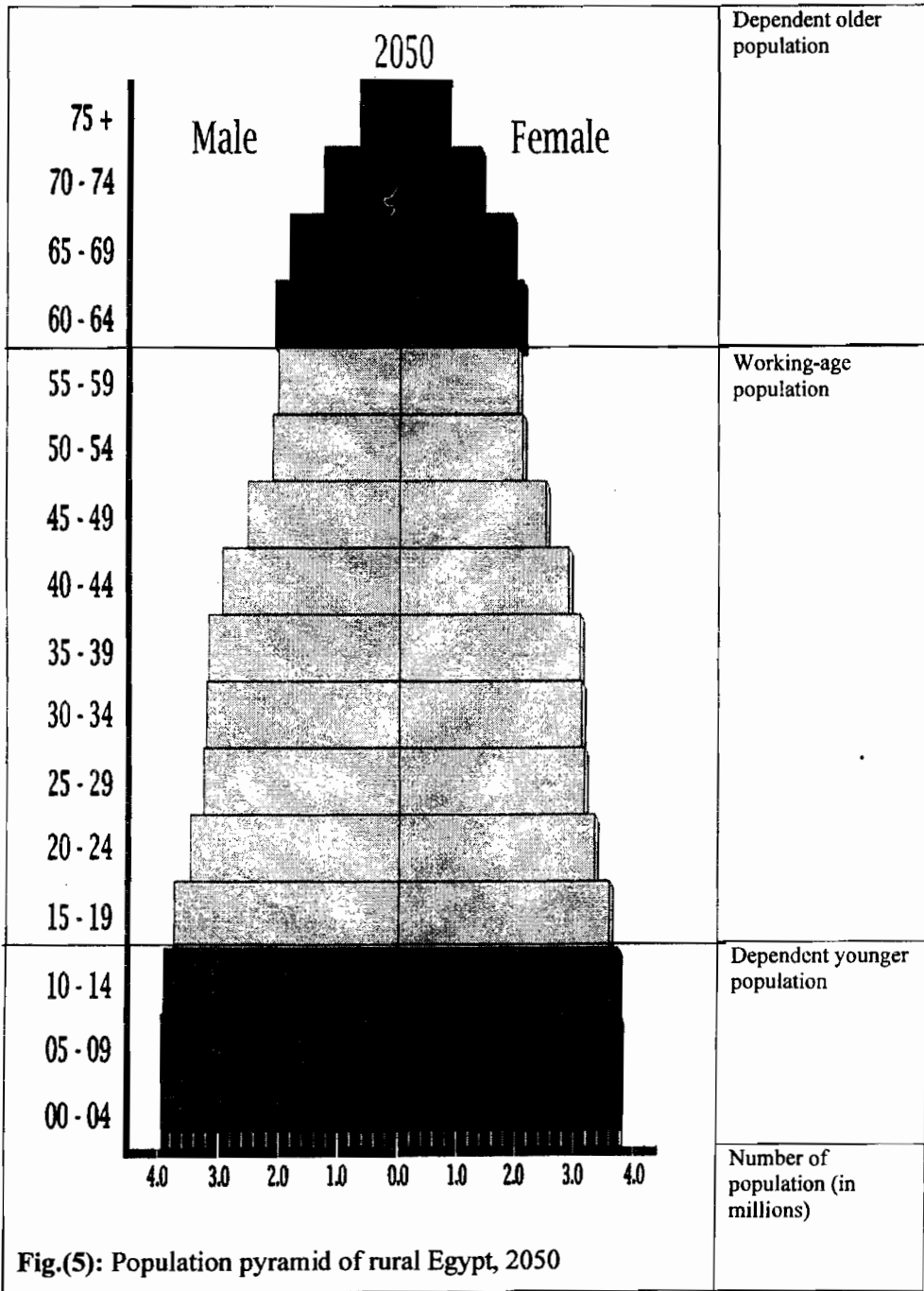
residence is quite clear. In 1996, thirty four percent of the population of urban areas were under 15 years old, six percent were 60 years or older, and sixty percent were at working ages (15-59 years). At the same year, rural areas had 41% under 15 years, 6% elders (60 years and above), and 53% within 15-59. In other words, the ratio of working-age population increases from 53 percent for those living in rural areas to 60 percent for those living in urban areas.

Regarding age structure at the expected end year of demographic dividend, the advantage will be in the side of workforce for rural and urban areas. Workforce may be of most striking in rural areas where it is expected to gain nine percent addition to its workforce by 2039 compared with 1996 census year. At the same time, the ration of children (under 15 years) will shift 12 percent down during the mentioned interval (1996-2039). The ratio of elders living in rural areas increases from 6% in 1996 to 10% by 2039. Urban areas may have four percent addition in workforce, nine percent addition in elders, but eleven percent subtraction of children less than 15 years by 2035 (the estimated end year of demographic dividend in urban areas).

By 2050, as indicated in figures 5 and 6, variation in age structure will continue to be







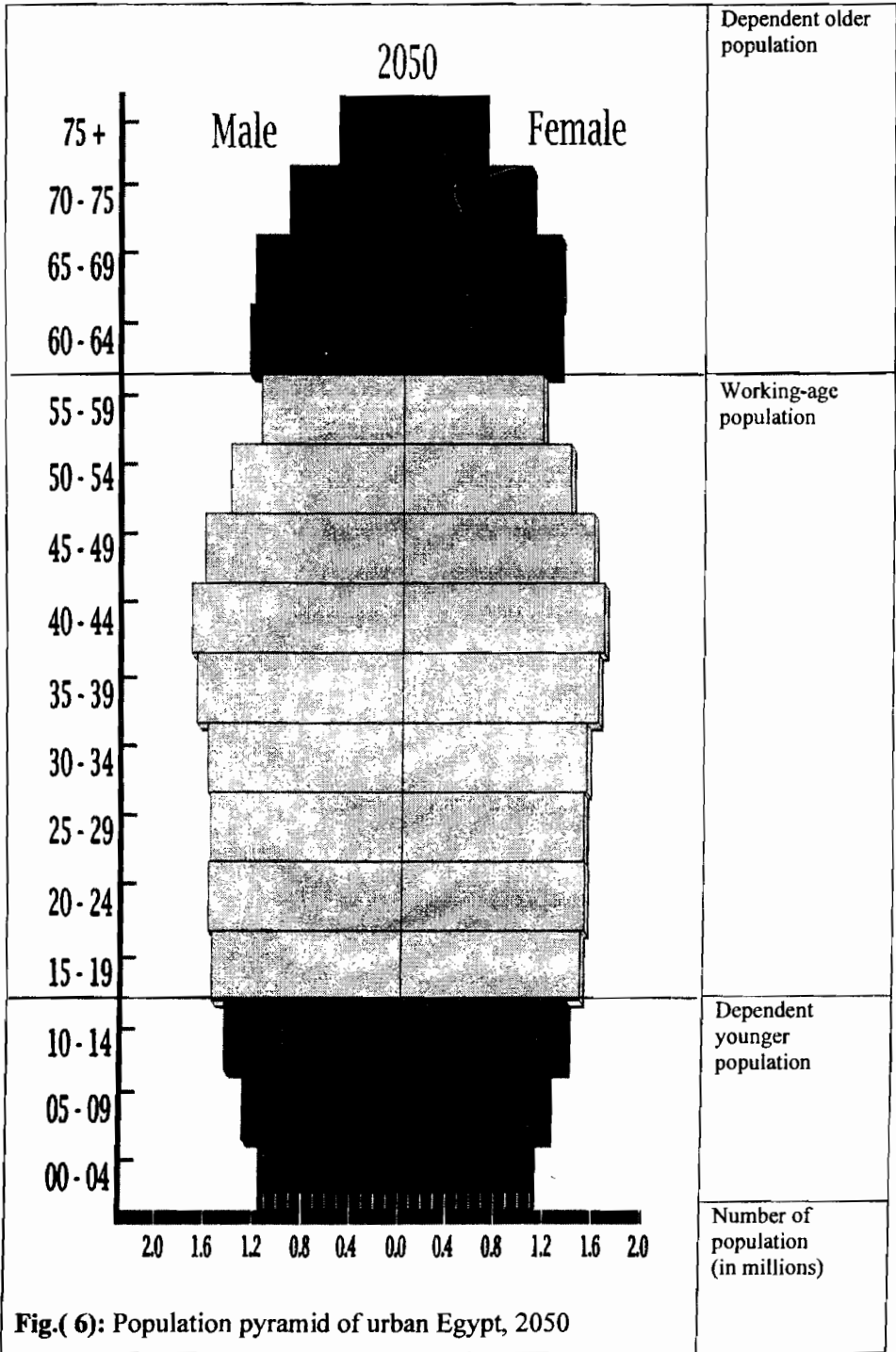


Fig.(6): Population pyramid of urban Egypt, 2050

evident in the population pyramids for rural and urban areas of Egypt. About 26% of population of rural areas is projected to be less than 15 years old decreasing from 41 percent in 1996, while the ratio of elders will increase from only 6% in 1996 to 15% by 2050, and about 59% of the total population is projected to occupy the working-age category. In urban areas, the ratio of population under 15 years old will decrease from 34% in 1996 to 17% by 2050. The opposite situation will be in terms of elders living in urban areas since they will increase from 6 % only to 21 % by 2050. Working-age population is expected to be 62 percent by the end year projection. However, such expected changes in Egypt's age structure can have significant effects on its economic performance because people's economic behavior varies at different stages of life.

Policy implications to exploit the demographic dividend

Demographic dividend is heavily dependent on the policy environment. In other words, the demographic dividend is not automatic. If timely policy initiatives are not adopted and correctly applied, the opportunity could be missed. Conversely, if a sound policy environment is put in place, then the population dividend will be delivered through enhanced labor supply,

savings and human capital. A growing number of adults will only be productive if there is sufficient flexibility in the labor market to allow its expansion, and if there are macroeconomic policies that permit and encourage investment.

Similarly, people will only save if they have access to adequate saving mechanisms and have confidence in domestic financial markets. Finally, the demographic transition creates conditions where people will tend to invest in their own and their children's health and education, offering great economic benefits, especially in the modern world's increasingly sophisticated economies. But government invariably plays a vital role in creating an environment where high-quality health and education provision is possible—necessary steps to make the most of their country's demographic opportunities.

Health generates wealth in Egypt when the right policies are in place. Improvements in public health and health care lead to a decline in mortality, especially among children, followed by a drop in the birth rate. This demographic transition produces a boom in working-age population, potentially fuelling a period of economic prosperity.

Finally, policymakers in Egypt have a window of

opportunity for exploiting the maturation of previously young populations. Policymakers should consider how to maximize and capture this dividend by: (a) accelerating the demographic transition, (b) allowing extra labor to be absorbed productively in the market, and (c) planning for the future health care and pension-income needs for this baby-boom generation when it ages.

Conclusion

Demographic dividend has emerged as a newly innovation for paying attention to fertility dynamics in Egypt. To explore the start and end points of demographic dividend, this study based on the methodology adopted by UN Population Division regarding future trends in fertility, mortality, and migration to forecasting population of rural and urban Egypt until 2050. In addition, Egypt Demographic and Health Survey (EDHS) series as well as the Egyptian Fertility Survey (EFS) were considered to define total fertility based on maternity-history data.

The most significant change accompanied the demographic transition was found to be changes in age structure. These changes have several socio-economic consequences through three phases:

A baby boom occurs in the first phase. The dependency ratio tends to increase dramatically. When the baby-boom generation reaches the prime reproductive years, it creates its own echo. This process is called population momentum. The second phase, those young cohorts become adults and join the labor force. The dependency ratio tends to decline. They tend to save more than they spend. These higher savings are expected to finance more investments. As the proportion of those workers rises, so do opportunities for economic growth. The third phase, there will be a large cohort of elderly people. Again, the dependency ratio will increase.

This opportunity is available only for a limited time, creating a one time "demographic gift". Egypt is living now at the turn of the second phase; the demographic dividend. In this phase, the economy has a unique opportunity to boost economic growth. It is worth noting that the window of opportunity will not remain open indefinitely due to aging. Findings of study refer that such opportunity may be available for some twenty years for Egypt. Accordingly, to catch this opportunity or not to catch it, this is the critical question now. This requires huge efforts to imply the demographic dividend in sustainable development policies in Egypt.

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العائد الديموجرافى فى مصر: فرصة ... هل تضيع ؟

عبد الصمد محمد على

قسم المجتمع الريفى والإرشاد الزراعى - كلية الزراعة - جامعة أسيوط

فى ظل التحول الحادث فى مصر من مستويات أعلى إلى مستويات أقل فى الخصوبة والوفيات ، ثمة تحول مقابل يحدث فى التركيب العمرى بشكل يمكن من تحقيق مكاسب اقتصادية - يشار إلى هذه العملية عادة بالعائد الديموجرافى . ويصبح هذا العائد حقيقة عندما تتزايد نسبة السكان فى فئات العمر الإنتاجية عن مثيلتها فى فئات العمر المعالة سواء الصغار أو كبار السن . وفى البداية تتسع الفئات العمرية للأطفال لتشمل كثيراً ممن كانوا يفتقون فى أعمار مبكرة فى أوقات فائتة . ولجيل الأطفال المنوي هذا سمة متفردة . وفى ظل انخفاض معدلات الخصوبة ، وصغر حجم الأسر ، تقل نسبة الأطفال هذه فى السنوات التالية للتحول فى الخصوبة . ومن ثم تكون النتيجة بمثابة انتقال فى التركيب العمرى كموجة سكانية تتخذ طريقها عبر سكان المجتمع .

على أية حال ، تهدف هذه الورقة إلى التعرف على أثر التحول الديموجرافى على التركيب العمرى فى مصر ، ومن ثم استكشاف السياسات المستقبلية التى يجب أن تنتهج فى هذا الإطار . وتنتهج الدراسة مدخل قسم السكان بالأمم المتحدة والخاص باتجاهات الخصوبة والوفاة لعمل إسقاطات لسكان الريف والحضر فى مصر حتى عام ٢٠٥٠ ، ومن ثم تحديد فترة العائد الديموجرافى المتوقع فى هذه المناطق . فكما سبق القول ، ثمة نافذة يمكن أن تفتح لتنمية بشرية ونمو اقتصادى متسارع نتيجة لانخفاض معدلات الخصوبة خلال فترة التحول الديموجرافى . ووفقاً لنتائج هذه الدراسة فمن المتوقع لهذا العائد الديموجرافى أن يبدأ خلال العام ٢٠١٥ فى كلا من الريف والحضر على السواء .

أما طول فترة العائد فتتراوح من ٢١ عاماً فى الحضر إلى ٢٥ عاماً فى الريف . ومن شأن السياسات التنموية أن تعد عاملاً معنوياً خلال هذه الفترة فى تحديد عما إذا كانت مصر ستستمتع بهذا العائد الديموجرافى من عدمه . فالانفتاح على التجارة العالمية ، وكذا السياسات الداعمة للعمل والتعليم من شأنها أن تساعد فى امتصاص العمالة الناتجة عن جيل الأطفال المدوى المشار إليه آنفاً . بعبارة أخرى ، يمكن أن يتحقق الاستيعاب الكامل لهذا العائد الديموجرافى فقط فى ظل استثمارات فى الصحة والتعليم وسياسات مناسبة للاقتصاد والقوى العاملة ، بالإضافة إلى حكومة مستقرة فاعلة .