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**Harnessing a Demographic Dividend:
Challenges and Opportunities in High
and Intermediate Fertility Countries**

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and Intermediate Fertility Countries**

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NOTE

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PREFACE

The Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat organized an Expert Group Meeting on “Fertility, Changing Population Trends and Development: Challenges and Opportunities for the Future” at the United Nations Headquarters in New York on 21 and 22 October 2013. The meeting was convened to inform substantive preparations for the forty-seventh session of the Commission on Population and Development in April 2014. In light of the twentieth anniversary of the 1994 International Conference on Population and Development (ICPD), the Commission’s theme for 2014 is an “Assessment of the status of implementation of the Programme of Action of the International Conference on Population and Development”.

The meeting brought together experts from different regions of the world to address key questions about the future pace of fertility change, implications for age structure changes and other population trends and effective policy responses. A selection of the papers prepared by experts participating in the meeting is being issued under the Expert Paper Series published on the website of the Population Division (www.unpopulation.org).

The paper proposes a list of requisites to enable current high- and intermediate-fertility countries to harness a dividend from their fertility transitions, based on a step-by-step description of the process of producing a dividend. Building on that description, the paper suggests key policy solutions. These are organized in a life cycle perspective from birth and early childhood to education, transition to employment, adult life and early retirement. Key recommendations echo and expand past calls to invest in education and family planning. Countries should consider education policies which extend beyond the period of formal schooling to support lifelong development in professional, personal and civic domains. Similarly, family planning policies should extend to address both desired family size and other desired family outcomes. For both sets of policies, a key challenge is to manage the youth bulge, the group of young adults waiting to transition into first employment. Although this waiting period is often considered idle, it is in fact ideal to involve youth in educational and family planning/building activities that benefit these youth, their families, and societies at large.

The Expert Paper series aims at providing access to government officials, the research community, non-governmental organizations, international organizations and the general public to overviews by experts on key demographic issues. The papers included in the series will mainly be those presented at Expert Group Meetings organized by the Population Division on the different areas of its competence, including fertility, mortality, migration, urbanization and population distribution, population estimates and projections, population and development, and population policy.

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A. INTRODUCTION

The demographic dividend has recently emerged as a ‘new rationale’ for linking population and development (Bloom, Canning and Sevilla, 2003). In this perspective, fertility transitions create a temporary window of low age-dependency that is propitious for economic development. For high and intermediate fertility countries (HIFCs) in particular, a practical policy question is whether these dividends will bolster Millennium and other development goals.

Initial answers to this question were vague and tentative, the basic mantra being that ‘*dividends are not automatic but require favourable policy and socioeconomic conditions.*’ Fortunately, more specific answers are forthcoming. One recent review thus lists four central conditions including further fertility declines; enhanced human capital; employment growth; stability, security and governance (UAC 2013). Another (Jain 2013) generates a similar list by highlighting the common drivers of fertility transitions and dividends.

The present paper continues this quest for specificity by proposing a fuller list of requirements. It begins with a step-by-step description of the process of generating a dividend, which then facilitates a more systematic inventory of the challenges entailed in pursuing a dividend, given various opportunities and challenges at the national and global levels. The paper is organized as follows: After a brief background on definitions and methods, the core conceptual framework is introduced. This framework, along with evidence on fertility transitions and emerging schooling dividends in Africa, guides the review of crucial challenges and policy solutions.

B. WHAT IS A DIVIDEND?

Broadly, the demographic dividend refers to socioeconomic gains arising from fertility transitions, but it can be defined more or less narrowly. The definition can embrace any economic gains from fertility transitions, whether or not they are mediated through changes in age structure. Alternatively, it can be restricted to the gains from changing age structure. Even more narrowly, one might stop short of actual economic outcomes and simply refer to the resources freed by the changing age structure.¹

There are tradeoffs in embracing a wider versus narrow view. The narrow view is empirically more tractable since one can trace the mechanical link between age structure and resources with simple accounting methods (Mason, 2013; Bloom, Canning and Fink, 2010). Yet this narrow link is reductive: it excludes the gains mediated by population variables other than age structure; and it truncates understanding by overlooking the crucial final step where resources ultimately translate into economic outcomes. Broader views are more encompassing. However, too broad a definition might blur the distinction between the new and older population debates. To combine the strengths of both perspectives, this paper strikes a middle ground between narrow and broad definitions. It does so by nesting the short link (from age structure to resource bonus) within the fuller link from fertility transitions to socioeconomic outcomes.

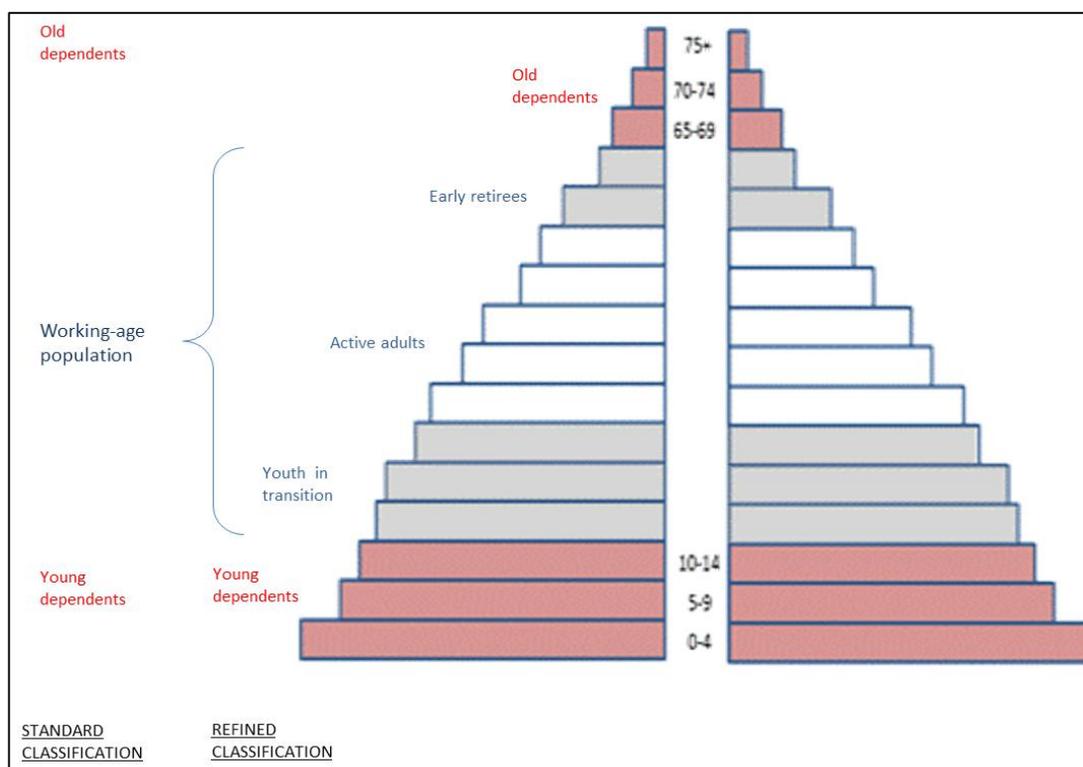
Beyond definitions, several assumptions must be considered: Will the dividend have short versus long-term effects? Shared versus uneven benefits? Additive versus interactive effects vis-à-vis other social change? Finally, since age-dependency is central to the argument, how salient is this concept in contemporary HIFCs? These questions are examined below.

¹ For various definitions see for instance Bloom et al. (2003); Lee and Mason (2006), or Gribble and Bremner (2012).

1. Age- versus economic dependency

Age dependency is a summary descriptor of a population's age structure. Strictly, it relates the number of young (0 to 14 years of age) and elderly (people aged 65 and older) to those in the 15 to 64 age group. Since the first two groups are expected to depend on the third for economic support, this ratio is said to capture economic dependency. However, it is questionable to conflate age and economic dependency if economic activity extends beyond the 15 to 64 age group or if the working-age population is unable to offer economic support.² In those cases, age dependency is a poor proxy for economic dependency (Basu, 2011; Eloundou-Enyegue and Giroux, 2013; AUC, 2013). This problem is best circumvented by using data on actual economic dependency. Short of this ideal, one can subdivide the 15-64 age group in three groups, including its core (roughly those between 30 to 54 years of age³, who are most likely to be employed), its older tail (roughly those between 55 and 64 years of age, who still make sizeable economic and social contributions) and its younger tail (youth aged between 15 and 29, who are likely to be in transition between school and employment). This refinement is used here and will serve later as a basis for policy recommendations.

Figure I: Age dependency categories: Standard versus refined classifications



2. Aggregate impact versus distribution

Macroeconomic studies of the dividend usually focus on average impacts, not distribution. However, if higher-income groups lead the fertility decline, they harness much of the dividend. Their head-start encourages further demographic innovations that widen inequality in subsequent

² For instance, in the few HIFCs where these statistics are available, substantial rates of child employment (13-48%) are found, and unemployment averages 35% for the 15+ population.

³ The specific age boundaries selected here are arbitrary and are just meant to support a broad qualitative description.

generations.⁴ Analyses of demographic transitions must therefore consider internal differences in demographic behaviours impacting children's resource endowments. Relevant behaviours include fertility but also assortative marriage, child fosterage, and women's roles in household resource allocation.

3. *Additive versus interactive effects*

If fertility transitions occur at the same time as other social transformations, their unique influences are hard to separate. Transitions in many African nations began at a time of economic and socio-political change (Lindstrom and Berhanu, 1999). Whether these various influences are merely additive or interactive must be considered. Do fertility transitions complement, replace, or catalyze the effects of other social change? Answers to these questions can help integrate population and economic interventions.

4. *Short-term and long-term effects*

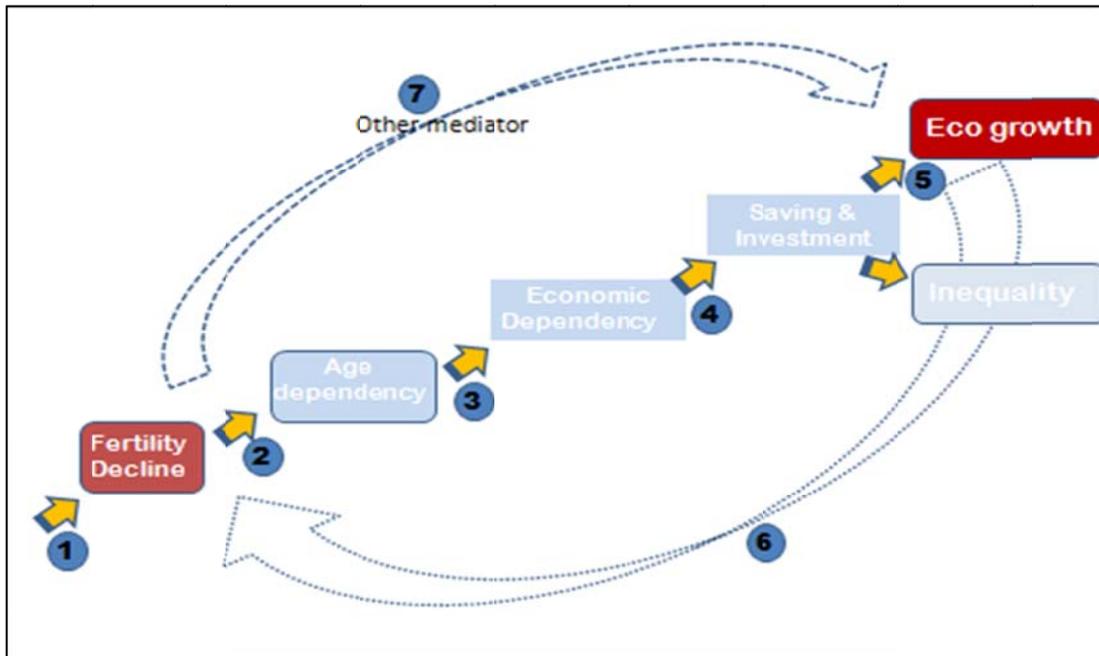
By necessity, empirical analyses of dividends usually have a short time frame. Much of the existing data pertains to the current and next generation, and studies typically ask how the fertility of today's adults shapes their own or their children's wellbeing (Lloyd, 1994). Yet ripple effects and feedbacks occur: as the next generation benefits from lower fertility, it further curtails fertility, thereby raising the possibility of a virtuous cycle. Lurking in the shadow, however, is the corollary spectre of a vicious cycle of inequality, if fertility transitions are driven by higher SES groups (Eloundou-Enyegue and Makki, 2010).

C. HOW IS A DIVIDEND GENERATED?

Figure II, below, describes the process of producing a dividend. It involves a five-step sequence where (1) a decline in fertility reduces (2) age dependency, (3) economic dependency, and leads to (4) greater resource mobilization and finally (5) improved socioeconomic outcomes. This full sequence can be broken down into a core component (steps 2 through 4) nested within the larger process. Additionally, the framework can expand to consider other pathways (Link 7) or feedbacks (Link 6). To return briefly to definitions, one can argue that the terms "window of opportunity", "resource bonus," and "dividend" (respectively) are used to refer to this chain of processes up to the steps 3, 4, and 5 (respectively).

⁴ This risk of transition-driven divergence is salient in sub-Saharan Africa where transitions are being led by upper income groups (Shapiro and Tambashe, 2002) and where the fertility rates among the lowest SES groups in most countries with recent data are often double those of higher income groups (Eloundou, Kuepie and Tenikue, 2013).

Figure II: Steps in the production of a demographic dividend



Empirical studies have used different methods, each resting on a slightly different definition of dividends. Analyses focused on the core link (between steps 2 to 4) can use simple accounting methods, while those studying the full link (steps 1 to 5) might resort to regression analysis, and those documenting the expanded sequence (steps 1 through 7) might require simulation models. Overall, the methods used have ranged from regression and simulation to transfer accounting and decomposition analysis.

Regression is the most generic tool. Although macro-level regressions are statistically weak, micro-level regressions using strong designs can generate reliable estimates of the consequences of demographic behaviour. Yet for the purpose of studying dividends, micro-regressions are limited by their focus on individual and family-level (rather than national) variables. Furthermore, they usually examine single relationships, rather than the complex web of reciprocal relations linking population and development variables.

Simulation models can capture this complexity by designing and activating interactive models featuring multiple links between population, policy and development variables (Canning et al., 2013). Assuming these links are reliably estimated, the model can serve to simulate how fertility transitions and policy combine to alter development outcomes. However, the method is data intensive and its results highly dependent upon the input parameters.

National transfer accounting is another data-intensive approach to estimating dividends. The idea is to use the age-patterns of per capita income, expenditure, and transfers to simulate how changes in age structure would alter aggregate levels of transfers, savings, investments and ultimately the corresponding development outcomes. This approach requires detailed data currently available only for a handful of African countries (Mason, 2013).

Finally, decomposition methods can be used to estimate the mechanical responses to demographic change. They usually build on the mathematical relationships between population and

development variables, to derive how changes in the outcomes of interest reflect the relative contributions of population.⁵

Although these methods are presented separately, they can overlap and mesh. For instance, regression results can serve as input in simulations or advanced decomposition methods. Or, some decompositions are simplified versions of national transfer accounting. Finally, different steps in the production of dividends can be studied with different methods.

D. FAVOURABLE CONDITIONS FOR HARNESSING A DIVIDEND

Figure II offers a practical guide to review the requirements for a dividend. The most generic requirements, consistent with the list of steps, include (1) a swift, continuous, and socially-even fertility transition (2) a clear historical period of low age dependency (3) a clear period of low economic dependency, (4) a mobilization of resources for development, and (5) efficient conversion of the mobilized resources.

A swift, irreversible, and broad-based even transition

To spur a dividend, a fertility transition must be swift, irreversible and broad-based. Otherwise the country's period of low age-dependency will be short-lived or shallow. If a transition is slow, old-age dependency might rise before the fertility transition is completed, and this counteracts the decline in young age-dependency. If a transition unfolds in fits and starts, the size of the youth cohort does not decline steadily, and this makes it less likely to observe a sustained period of very low age dependency. Finally, if a transition is driven by high socioeconomic status (SES) groups, the initial benefits are muted and confined to the least needy. Such a transition fuels economic inequality.⁶

Studies of fertility determinants point to education and family planning programmes as policy levers (Bongaarts, 2003; Jain, 2013), but broad-based fertility transitions requires more specific targeting. Family planning programs must be accessible to rural, poor, and younger populations; and investments in education must likewise target the most vulnerable. Indeed, mere improvements in formal education outputs are not enough. Countries must manage education systems so as to integrate the multiple functions of school institutions in building human capital but also in regulating social mobility, creating employment, and forging social cohesion.

Analyses must also embrace a broader view of fertility transitions and family planning. Fertility transitions go beyond falling birth rates, and they integrate relevant changes in family structure (premarital fertility, assortative marriage, divorce and family nucleation) that impact the size and distribution of national dividends. Similarly, family planning might be framed in broader terms that transcend the mere achievement of desired family size, and incorporate issues of parenting, marital counselling and dependent care.

⁵ For instance, the education resources per pupil can be expressed as a function of national GDP, the share of GDP allotted to public education, and the number of school-age children. Using this simple formulation, one can decompose the per pupil education resources into the changes in population, budget choices and national economic performance. Similarly, trends in GDP per capita can be decomposed into the changes in the age structure, and the productivity of the working age population for instance (Eloundou-Enyegue and Giroux 2013; Eloundou-Enyegue, Kobiane and Beninguisse 2013).

⁶ Liberia and Zambia are examples of countries where recent DHS estimates show the total fertility of the lowest SES group to be at least 2.5 times those of high SES groups. Ghana and Kenya are two instances where national transitions stalled in the 1990s; whereas the Congo, Niger, Mali and the Gambia are instances of remarkably slow declines (less than 5 per cent since 1990).

1. *A clear period of low age-dependency*

In theory, a country might reduce birth rates but fail to achieve low age-dependency if adult mortality is rising concurrently, perhaps through AIDS mortality. A swift decline in fertility must be accompanied by steady gains in early and adult survival in order to yield a marked decline in age-dependency. How big and protracted this decline must be is unclear. The United Nations thresholds for low-dependency are to be below 30 per cent for the under-15 population and below 15 per cent for the 65 and older population. For the countries whose fertility is now above four births per woman, the United Nations projections show wide variation in the onset of this period of low dependency. Lagging countries will not enter this period until the middle of the century, while forerunners are doing so now or very soon.

2. *A clear period of economic dependency*

Age dependency and economic dependency are not synonymous unless all of the working-age population is employed and can support dependents, and unless all those younger than 15 and older than 65 are dependent. Deviations from these conditions occur when high unemployment and child labour prevail. They also occur in informal and agricultural sectors where retirement is less relevant (UAC, 2013). Within the working-age population, two subgroups merit special attention. The first consists of young graduates entering adulthood and the labour market. Policies targeting this group must hasten the transition into first employment, while also involving graduates in productive civic, professional, and personal development activities during this transition. Next are current cohorts of civil servants entering retirement before age 65 and facing weak pension systems. According to the old-age security argument for high fertility (Nugent, 1985), the fate of today's retirees might set a backdrop against which today's young urban adults will plan their own retirement, and decide whether to rely on children for their old-age security. Additionally, these early retirees can bring new skills and leadership in their retirement communities (Glasgow, Min and Brown, 2013). More broadly, their premature enrolment into the dependent population skews standard assessments of age dependency.

3. *Resource mobilization towards saving and investment*

By alleviating the strain on families and national budgets, a period of low economic dependency can boost savings and investment in economic development. Yet there are competing demands on these freed resources. National budgets might be overburdened by debt servicing, military or other non-productive spending. Or countries might simply face a period of slow or negative growth. Households face similar constraints: personal debt or rising costs of living can siphon resources away from saving and productive investment. Or changes in family structure (such as changing divorce rates or fosterage) might reduce the resources available to children despite a theoretical reduction in age dependency in the aggregate.

4. *Effective conversion of investments into outcomes*

Merely throwing additional money at a country's problems does not guarantee better outcomes. In addition to resources, countries need sound policy guided by reliable evidence on the groups, stages, and mechanisms to target, as well as the likely impacts of various policies. In sum, governance, cross-sector coordination and dialogue between research and policy are all paramount.

E. A FULL LIST OF CHALLENGES

One can use the framework in Figure II to build a systematic list of challenges. This inventory is based on two criteria: the step in the production of dividends, and the relevant institution, whether families, national economy and culture, or global environment. The resulting matrix permits a

systematic inventory of possible challenges. Out of this full list, one can identify the most pressing challenges. Recent experiences across a wide range of African countries⁷ show the most problematic steps to be #1 and #4. For this reason, the discussion below focuses on these two steps.

F. A SHORT LIST OF CHALLENGES

Out of the five steps in the production of the dividends, the first and fourth steps were most crucial. For this reason, they are emphasized in this discussion.

1. *Key challenges in the first step*

The goal at this stage is to achieve a swift, steady and broad-based fertility decline. Many HIFCs remain in the early phases of their fertility transitions, but even the more advanced among these countries have seen their transitions stalled or led by higher SES groups (Bongaarts, 2005). Slow, stalled or uneven declines hamper the production of a shared dividend. Beyond family size, family structure is important: premarital fertility, higher divorce rates and polygamy may reduce the pool of resources available to children, whereas economically assortative marriages might promote inequality in the next generation. In sum, the first requirement is not merely to reduce birth rates, but to do so in a manner conducive to reducing dependency at the aggregate and family levels.

Beyond families, national-level factors also matter: the prevailing costs of children, for instance, shape fertility demand, especially if they are increasingly borne by male biological parents (rather than relatives, the State, or female parents only). These cost-effects are stronger in the presence of strong incentives to invest in child quality. Political support for family planning is also determining. Finally, global factors, including international support for family planning and worldwide advocacy for education, play key roles as well. Although several factors affect this first step, there is a policy imperative to focus on the most crucial levers, which have been shown to include investments in education and family planning. Details about the scope of possible programs are discussed at the end.

2. *Key challenges in the fourth step*

In this fourth step, lower economic dependency creates an opportunity to invest in development, if governments and families can ward off the competing demands for freed resources. At the family level, this competition can come from high personal debt or rising costs of living. Other family dynamics (e.g., increased participation of women in household decisions (Joshi, 2004)) promoting child-centric spending, savings and productive investments will also support the dividend. As they bolster egalitarian values and participative decision-making, the gains in women's education and labour force participation support success in this fourth step.

At the aggregate level, the resource bonus may similarly be diverted away from productive investment because of debt servicing, military spending, bloated bureaucracies or a large backlog of unemployment or unmet social services. As another possibility, the country's window of low age-dependency might open during a period of low economic growth. In this case, the bonus might be frittered away by national efforts to steady, rather than grow, the economy. Although these efforts would offset the depth of economic decline and therefore represent a valuable contribution and a dividend of sorts, much of the spending is likely to be devoted to meeting immediate social services rather than investing in long-term growth. Finally, relevant features of the world economy at this stage include global support to the efforts of poor countries to direct resources to development rather than debt servicing or military spending for instance.

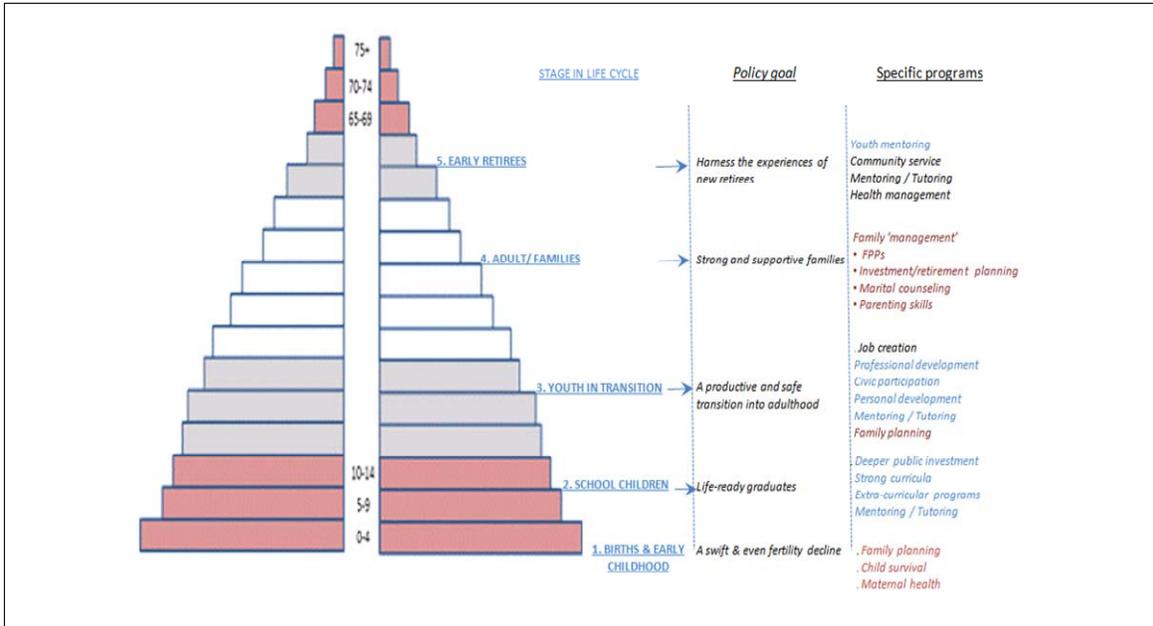
⁷ See Eloundou-Enyegue and Giroux (2013). Out of 43 African countries studied for the 1975 to 1990 period, slightly fewer than half (19) experienced a decline in fertility that exceeded 10 per cent (essentially a stalling at the very first step). Of those who did, the majority saw their dividend production process stopped at the fourth step.

In sum, whether a country successfully completes this fourth step partly depends on broad forces beyond the direct control of national policy (global community support, foreign debt, national economic growth, backlog of social services and unemployment). However, it also depends on feasible policy choices about national budget and household-level decisions about resource allocation processes, some of which depend on investments in education.

G. POSSIBLE SOLUTIONS AND CONCLUSIONS

Based on the preceding discussions, the key factors to a dividend can be organized around a life-cycle perspective where various policy options are tied to individual life stages, including (1) births and early childhood, (2) schooling period, (3) transition to employment and adulthood, (4) working and family life, (5) early retirement (Figure III). Within each stage, the mix of policies emphasizes education and family-centered programs, in addition to broader socioeconomic programs.

Figure III. Policy Solutions for Harnessing a Dividend, by Stage in Life Cycle



1. Births and early childhood

The policy goal here is to support a swift and even decline in fertility. As Figure II underscored, the production of a dividend begins with a decline in national birth rates. To be effective, this decline must be swift, irreversible, and broad-based. In most HIFCs, higher SES groups are leading the decline in birth rates, a pattern which restricts the depth and distribution of the national dividend. Family planning programs must specifically address the unmet needs of lower SES groups. Fertility declines must also occur within favourable family contexts that enhance resource pooling and deep investment in children. In short, families must be able and willing to devote a substantial share of their resources to children’s wellbeing.

2. School-age children

The goal at this stage is to provide a quality education that produces internationally competitive and life-ready graduates. Education can play a triple role in producing a dividend. First, the demand for schooling spurs a quantity/quality trade-off and encourages current parents to deepen investment

in smaller families. Second, the resulting gains in schooling perpetuate lower fertility in the next generation by promoting a preference for smaller families and better agency in realizing this preference. Third, these gains in schooling also prepare a potentially more productive labour force. Many HIFCs have made some strides in raising school enrolments but the added challenge—from a dividend perspective—is to improve educational quality in ways to produce work-ready and life-ready graduates. Meeting this goal requires four types of initiatives:

- *Improving the quality of education* by increasing the share of national budgets going to education but also by making efficient use of these public investments while enabling the contributions of local civil society and international remittances. An indicator of success here would be the students' performance on international standardized tests, but also how graduates meet and adapt to the needs of the national and global labour markets.
- *Strengthening the school curricula* to include content to prepare students for life, in addition to the core academic training
- *Offer a wider range of extra-curricular activities* to likewise expand students' understanding of the world of work and facilitate exploration of other skills;
- *Stimulate a 'tutoring economy'* (see below) in which current students are mentored in core subjects by recent graduates with above-average skills in these subjects and in pedagogy. This can be a win-win solution in creating jobs for the best of recent graduates while also raising the quality of schooling. One downside might be to fuel inequality. The State must play a key role in regulating this industry, whether by certifying tutors, boosting the demand for tutoring, or subsidizing access to tutors for low income students.

3. *Youth in Transition*

The goal here is a productive and healthy transition into employment and adulthood. Efforts to improve the quality of education are futile unless these skills are applied. Much of the dividend thus hinges on how countries manage the youth bulge, the 15 to 29 age group entering adulthood and the labour force. In countries plagued by high unemployment, the period of time between graduation and first employment is lengthy and risky. As they wait and compete for scarce jobs, recent graduates can be discouraged and drift into risky choices. They might lose skills, focus, and hope; and they might make a false start in their family and adult lives. To avert this bleak scenario, countries can design a range of initiatives to generate income and employment but also to maintain and expand human capital. Full employment is the ideal but realistic palliatives must be considered. At a minimum, governments must strive to shorten the waiting times (through massive investments in labour-intensive sectors) but also promote fair hiring practices: even more than long waits, perceived favouritism is alienating and might discourage families from continued investment in human capital.

In addition to shortening the waiting time, countries can make it more productive. They can do so by involving unemployed graduates (including those who have dropped out of school) in some of the following activities.

- *Professional development*: These activities are designed to maintain academic skills and build other professional skills. These can be done through work internships but also through additional training in such areas as language, communication, or computing for instance.
- *Personal development*: These activities are designed to help youth continue their personal development, whether in self-understanding, family responsibilities or parenting. Youth may also acquire practical domestic skills such as gardening, home repair, first aid, etc. These (and the above) activities not only expand individual capabilities, but they improve quality of life.
- *Civic participation*: Through community and national service, youth can be engaged in volunteer programs to improve their communities, build networks, and learn valuable lessons about public service.

- *Mentoring/ tutoring*: The idea here is to foster a tutoring economy that achieves several of the goals listed previously. By serving as academic tutors or life mentors to younger children, recent graduates can at once generate some income and maintain their academic skills while also helping others. Furthermore, their involvement helps raise the quality of education received.

Any of these initiatives can make the waiting time between graduation and work more productive. Together, they might radically alter the perception of graduates, from ‘waiters’ to ‘stewards’ of their future. National programs in each of these areas can borrow from the experiences of other countries. Within countries however, programs in these four domains must be coordinated to be mutually supportive and synergistic.

4. *Family-managing policies for strong and supportive families*

The concept of family management here encompasses activities to promote the human development of children, including their survival, schooling, economic mobility, and preparation for adulthood. It also includes the wellbeing of other family members. It is in fact family planning writ large, which is about achieving desired fertility but also the wellbeing of families beyond birth. Given the current demographic inequalities, these programs must cater to the needs of the poor and youth.

5. *Early retirement policies to harness the experiences of new retirees*

Just as the youth bulge, early retirees are overlooked in standard descriptions of age dependency. Setting the normative start of old-age dependency at age 65 is problematic in HIFCs for two reasons. On the one hand, most in the informal or agricultural sectors only stop working as a result of disability or death. On the other hand, retirement from public sector employment occurs as early as 50, and benefits are minimal. Many African countries who gained independence in the 1960s are now handling the first large wave of public sector retirees, especially in countries where structural adjustment programs have encouraged early retirement. These retirees are often too vibrant and too insecure to retire. Societies can harness the experiences and residual energies of this group (AUC 2013). Its wellbeing is central to the dividend, if only because it serves as a backdrop against which today’s young adults might make their reproductive decisions, in particular whether to entrust their old-age security to their children or the State.

6. *Governance*

Good governance is required throughout the process of reaping a dividend. Two aspects of governance are key to this overall process. One is the diligent allocation of new resources to productive investments in growth and human capital (step 4 in Figure II). This requires substantial discipline in countries experiencing modest growth, rising consumer aspirations or inequality. The second aspect of governance is the efficient transformation of resources into development outcomes (step 5) and, more broadly, the careful monitoring and handling of the country-specific bottlenecks. This second aspect of governance requires the involvement of researchers and a steady dialogue between research and policy. Local researchers must be involved in the effort to refine assessments of the most effective and politically feasible solutions out of the broad outline suggested in this paper.

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