

# Economic transformation, productivity and youth

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## Question

*As economies become more productive and new types of employment emerge, are youth better placed to benefit because of their higher levels of mobility, flexibility and superior ability to acquire new skills?*

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## 1. Overview

This report collates literature which contributes to the discussion around whether youth are more likely to benefit from economic transformation in terms of employment and income. Given the emphasis put on young people's ability to innovate and be flexible, are they well-positioned to take advantage of macroeconomic changes?

In the time available for this report, no literature was found directly answering the research question posed here, but literature on youth employment, skills, and growth provide some suggestions. The direction of causality between economic growth and youth employment is not clear. Most of the literature takes the perspective that youth can drive economic growth, not that youth stand to specifically benefit from growth. A similar story is told about skills: new skills tend to drive productivity and growth, not that productivity drives a demand for new skills. This is supported by evidence particularly from East Asia, where investment in education drove economic growth. The potential of youth to develop and innovate is widely acknowledged, but this discussion is mostly taking place in blog posts and opinion pieces, without rigorous evidence to support this assumption.

There is a considerable literature on the demographic dividend – the assumption that if there is a youth bulge in a society, that as that group matures and enters the labour market, society will benefit from the general increase in available labour, innovation and skills. A strong and

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consistent message emerges from this literature that economic gains do not arise automatically from a youth bulge, but that appropriate policies and institutions must be in place. Youth will only benefit if the labour market is able to absorb them – if there are enough jobs and enough growth.

The literature suggests that youth are often the most disadvantaged in the labour market. Globally, young people (aged 15 to 24, or sometimes including those aged up to 35) are disproportionately unemployed or underemployed compared to the rest of the working population. Reasons for this are usually given in the literature as lack of skills, specifically soft skills, lack of connections, and lack of access to finance. Many young people are disproportionately employed in the informal sector due to their inability to get formal, waged jobs.

The current situation is reported strongly and consistently across the literature: youth are underemployed, and lack appropriate skills. Almost all of the literature reviewed here suggests that youth are poorly positioned to take advantage of macroeconomic or sectoral changes, as they have not been trained in the skills that employers want. There is a chronic skills mismatch across many developing countries, with employers needing all of low, mid and high-skilled workers, but with young graduates unable to find work and low-skilled youth forced into informal work. Employers tend to favour older workers with more work experience and well-matched skills. This is repeated strongly across many different low and middle income contexts. Thus the literature suggests that youth are not well positioned to take advantage of any changes in macroeconomic productivity and growth. Youth will only benefit from a demographic dividend if they are trained in appropriate skills, which currently does not exist.

The most common solution advanced in the literature is for better education. Sources recommend improvements at all levels of education – from increasing basic literacy and numeracy to tailoring university degrees to employer requirements. As it stands, current education systems in developing countries are not producing employable young people.

## 2. Demographic picture

### **Age structure and productivity growth**

Sevilla, J. (2007). Institute for Future Studies.

<http://docplayer.net/1474558-Age-structure-and-productivity-growth.html>

This paper finds evidence of a positive correlation between the demographic dividend stage of the demographic transition and productivity. The author constructs a panel dataset of economic and demographic variables observed for the developing countries during the period 1970 to 2000, limited to the 66 developing countries with national populations of at least 1 million people in the year 2000 and complete data on the variables for the years 1970 to 2000. The results all broadly support the view that the entry of the baby boom cohort into the adult years has a positive impact on productivity. All of the age structure coefficients are positive, and the vast majority of them are statistically significant. The results support the general approach of demographic dividend type arguments, which argue that emergence into adulthood of the baby boom cohort tend to have economic effects that are conducive to growth.

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### **Global demographic change: Dimensions and economic significance**

Bloom, D. E., & Canning, D. (2004). (No. w10817). National Bureau of Economic Research.  
<http://www.nber.org/papers/w10817>

This paper presents estimates of a model of economic growth that highlights the positive effects of demographic change during 1960-95. It emphasises that the realisation of the potential benefits associated with the demographic transition appears to be dependent on institutions and policies, requiring the productive employment of the potential workers and savings the transition generates.

The historical experience is of reductions in infant and child mortality that produce a "baby boom" and that lead to a large working age cohort. Subsequent reductions in fertility reduce the dependency ratio. This change in the age structure appears to produce a demographic dividend that is overwhelmingly positive in terms of potential economic outcomes. Labour supply per capita rises when the large baby-boom cohort enters the working ages and with the increase in female labour force participation that is typically associated with fertility decline. The large working age cohort saves for retirement, perhaps at a higher rate than before due to its longer life expectancy, producing potential resources for investment. The longer span and reduced mortality rate may also encourage investments in education. East Asia's macroeconomic performance is tracked very closely by its demographic transition and resulting changes in age structure. Estimates indicate that as much as one-third of its "economic miracle" can be accounted for as a "demographic dividend". By contrast, the absence of demographic change also accounts for a large portion of Africa's economic debacle. Central to our understanding of the East Asian "miracle" has been that rapid economic growth in the region was mainly due to increases in factor inputs-- notably labour, capital, and education-- and not to improvements in total factor productivity. All of the Asian "Tiger" economies enjoyed a surge in savings and investment during their period of rapid economic growth.

The potential of the "demographic dividend" is not always realised; economic growth is not an automatic outcome of changes in the population age structure. A large working-age population requires a matching demand for labour if the demographic dividend is to be enjoyed. Without appropriate policies the extra labour supply can result in unemployment or underemployment, with political instability, elevated rates of crime, and the deterioration of social capital a possible further consequence. The key determinants of whether a country will capitalise on its demographic opportunity are how flexible the economy is and its ability to absorb a rapidly increasing labour force.

## **3. Growth, economic change and skills**

### **2014 African Transformation Report: Growth with Depth**

African Center for Economic Transformation (2014). African Center for Economic Transformation (ACET).

<http://africantransformation.org/wp-content/uploads/2014/02/2014-african-transformation-report.pdf>

Chapter 4 of this comprehensive, evidence-based report describes what is necessary to build the relevant skills for Africa's growth. It draws heavily on comparisons with economically developed Asian countries. The main message is that youth could be an asset or a hindrance to economic growth, and currently do not have the skills to provide businesses with what they need.

By mid-21<sup>st</sup> century Sub-Saharan Africa will have a larger and younger workforce than India or China. The share of 15–24 year olds in the working population would be 18.5 per cent, well above the projected world average of 13.5 per cent. As it currently stands, this workforce does not have the necessary skills to drive economic transformation. ACET interviewed top executives of 10 multinational manufacturing companies with operations in sectors aligned to Sub-Saharan

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Africa's comparative advantages and with some type of manufacturing presence in emerging markets. The low productivity and high costs arising from the lack of education and skills make it infeasible for them to locate in Sub-Saharan Africa, especially in comparison with India and other low-cost producers. As one executive said: "Until there is an educated and skilled workforce, all other initiatives and incentives are of no use."

Early industrialisation relies on low and mid-level technicians, prepared mainly by technical and vocational institutes, mainly at the secondary level. The region's share of vocational students at the secondary level is around 8 per cent. In South Korea the share of technical-vocational high schools in the 1970s was around 45 per cent. In Singapore the Institute of Technical Education and the polytechnic system enrol about half the students in upper secondary and higher education. To make the labour force an asset there is a need to: Ensure universal primary education. Boost secondary and tertiary enrolments. Improve the quality of teaching. Increase the scientific and technological orientation of the education system and align it to the requirements of the workplace. Develop vocational, technical, and polytechnic education. And support on-the-job training and continuing education. Typically, most of the effort is government-led in traditional education and training systems. Also to be considered is complementing that system by moving outside it to quickly produce workers with the skills that businesses need.

### **Education in a changing world: flexibility, skills, and employability.**

Wang, Y. (2012). Washington, DC: World Bank.

<http://documents.worldbank.org/curated/en/517491469672142098/Education-in-a-changing-world-flexibility-skills-and-employability>

This paper puts education under the lens of the changing demands of technology, the labour market, demography, and migration. It identifies the weaknesses in current education systems, such as restricted access, skills mismatches, and weak school-to-work linkages. It calls for making education systems more flexible and responsive to change so that they maximise human resources, equip people with updated skills, and prepare youth for the world of work.

By 2050, every continent except Africa is expected to have more elderly people than children; the average age in developing countries will be 38 years and in developed countries, 45 years. By 2050, the working-age population is projected to increase in every region of the world except Europe, where it is projected to decrease by 23 percent. In Latin America, the workforce will increase by 26 percent and in Asia, by 22 percent. Africa will experience the most rapid increase over the 40-year period— 125 percent. Asia is projected to have the largest working-age population by 2050 (3.4 billion), while Africa will have the second largest (1.3 billion).

There is an increasing demand for higher-order skills. Although there is no agreed definition of these skills, they are generally described as the ability to apply knowledge and use know-how to complete tasks and solve problems. Employers are looking for individuals who have a combination of technical and "soft skills," including teamwork, leadership, and communication. The labour market is sending a strong message that education systems based on rote memorisation that do not develop soft skills are not delivering relevant, marketable skills. In China, among 600,000 university-trained engineers each year, fewer than 1 in 10 are assessed as employable by multinational corporations. Similarly, in India, only 25 percent of engineering graduates and 10–15 percent of general college graduates are considered suitable for direct employment in the offshore information technology and business process outsourcing industries. This is indicative of an education system that lacks relevance and quality and has failed to respond to the changing demand for skills in the labour market.

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## **Industrial Development Report 2013. Sustaining Employment Growth: The Role of Manufacturing and Structural Change**

UNIDO (2013). United Nations Industrial Development Organization.

[http://www.unido.org/fileadmin/user\\_media/Research\\_and\\_Statistics/UNIDO\\_IDR\\_2013\\_main\\_report.pdf](http://www.unido.org/fileadmin/user_media/Research_and_Statistics/UNIDO_IDR_2013_main_report.pdf)

This report comprehensively presents information on structural change and industrialisation. Its focus on manufacturing highlights that changes in this sector require changes in labour workforce skills. It does not emphasise young people's role in this transformation, but implicitly suggests that relevant skill acquisition is more likely by youth.

The shift from low-level industrial deepening to advanced industrial structures entails changes in technological capabilities and skill demand. The general trend is that as countries move from simple assembly technologies to being able to import, adapt and operate state-of-the-art technologies, the skill profile gradually evolves from basic production skills to highly specialised professional skills. This course also involves changes in skill acquisition through formal education and in-firm learning. Broadly, a solid primary and secondary education is fundamental for countries at low and intermediate levels. The emphasis is on developing basic literacy and numeracy skills to operate simple technologies. There is informal in-firm learning through repetition and through trial and error but no deliberate effort by firms to invest in skill development. Salaries at this level are low and workforce turnover high. The structural change towards advanced industrial structures requires skills to deal with progressively more complex and fast-changing technologies. Countries excelling in technology-intensive industries need a highly qualified labour force with a strong technical background – there is an emphasis on university enrolment in technical subjects such as science, mathematics, engineering and manufacturing. At this end, firms invest heavily in skill development through in-firm training and through direct involvement in apprenticeship programmes. In particular, specialised training by semi-public technical and vocational education and training institutions helps firms co-share training costs while guaranteeing the applicability of skills in the workplace.

## **The Least Developed Countries Report 2013: Growth with employment for inclusive and sustainable development**

UNCTAD (2013). United Nations Conference On Trade And Development.

[http://unctad.org/en/PublicationsLibrary/ldc2013\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ldc2013_en.pdf)

Chapter 2 highlights the scale of the demographic challenge faced by the Least Developed Countries (LDCs): their population, about 60 per cent of which is currently under 25 years of age, is projected to double to 1.7 billion by 2050. If, as expected, an additional 630 million people enter the LDC labour market between 2010 and 2050, these countries will be confronted with even greater employment and development problems.

Despite the fact that many LDCs have experienced high levels of economic growth since 2002, the persistence of relatively high rates of population growth, poverty and low human development indicators means that such growth has not translated into improved living standards and decent employment for most people. As a consequence, high fertility rates and population growth have tended to slow the demographic transition in LDCs, potentially delaying the demographic dividend. It is the LDC youth labour force (aged 15–24 years) that is most affected by unemployment, in disproportionate numbers. In most LDCs, it is higher than the average LDC unemployment rate for both men and women, and in most cases is almost twice the rate. The relative prevalence of youth unemployment is evident particularly in the island LDCs (16 per cent in 2011) and Asian LDCs (10.5 per cent in 2012).

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## **Urbanization and the Employment Opportunities of Youth in Developing Countries**

Grant, U. (2012). Background paper prepared for EFA Global Monitoring Report.

<http://unesdoc.unesco.org/images/0021/002178/217879E.pdf>

Urbanisation can provide an engine for economic growth. The combined benefits of market proximity and the economics of agglomeration offer considerable potential for labour market opportunities. By 2030 it is estimated that all developing regions will have more people living in urban areas than rural areas, with virtually all the world's population growth concentrated in urban areas over the next 30 years. This paper provides an overview of patterns of urbanisation across developing countries in relation to urban economic growth and implications for urban poverty, particularly among urban youth.

The lives of urban youth are dominated by the need to find productive work, yet labour markets are often unfavourable towards youth employment. The paper argues that urban youth are often discriminated against on the basis of particular poverty characteristics (e.g. slum residence) and this is underlain by predetermined circumstances (e.g. gender, race, ethnicity, education of parents) and exacerbated by policy bias (e.g. limited investment in schooling for the urban poor). The result is that lives of many urban youth are typified by diverse portfolios of informal sector livelihoods and urban entrepreneurship. The role of formal education in gaining employment is evident but not straightforward. Highest youth unemployment often affects the lowest and highest educated youth. The informal sector also has restrictive entry requirements that limit access to youth that are weakly networked or poorly skilled. Certain groups are particularly disadvantaged, such as migrant youth and female youth. Coping strategies often increase the urban vulnerability of youth but at the same time can demand (and cultivate) entrepreneurial skill and resilience.

It is important that these sets of entrepreneurial skills are not overlooked when considering urban youth work as they are key to survival in urban areas. The paper supports the case for investing in skills development but argues that such a focus not overlook the wider dimensions of disadvantage and labour market discrimination that underpin youth employment problems in urban areas.

### **Fiscal policy and the youth labour market**

Ebell, M., & O'Higgins, N. (2015). EMPLOYMENT Working Paper No. 200. International Labour Organization.

[http://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS\\_466541/lang--en/index.htm](http://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_466541/lang--en/index.htm)

This paper seeks to fill a gap in our knowledge; young people in high income countries have been particularly severely affected by the recent recession and the period of 'austerity' which has followed it. The analysis seeks to evaluate the potential that expansionary fiscal policy can have to ameliorate, and restrictive fiscal policy to worsen, conditions in youth labour markets. One of the most consistent findings of the literature on the causes of youth labour market outcomes is that aggregate demand is a fundamental determinant of the state of the youth labour market. It is firmly established that what happens in young people as they enter the labour market is very much dependent on what is going on in the economy as a whole.

The results presented here provide clear evidence that countercyclical fiscal policy is an instrument well-suited to ameliorating youth unemployment; although they also suggest that the instrument is more effective if preceded by a relatively conservative fiscal policy in non-recessionary circumstances – a fully countercyclical fiscal policy with fiscal expansion during recessions and contraction during periods of growth. Decreasing the budget surplus, particularly during a recession, leads to substantial reductions in youth unemployment rates. In order to reduce youth unemployment and increase youth employment, governments should increase expenditure and reduce taxation during recessions, whilst doing the opposite in when the economy is expanding.

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## **What are the effects of job polarization on skills distribution of young workers in developing countries?**

Gemmel, P. (2016). Technical Brief No.7. ILO.

[http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/documents/publication/wcms\\_534635.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_534635.pdf)

One of the most discussed topics in the domain of labour economics during the last couple of decades has been the polarization of employment in industrialized countries, namely the growth of high and low paying jobs and the decline of jobs paying wages around the middle of the wage distribution. Economists identify two main reasons for this phenomenon, the first one being technological progress and the second one the globalization of the world economy.

The ILO school-to-work transition surveys (SWTS) offer an opportunity to study polarization more closely from the perspective of 23 developing countries. The SWTS datasets were explored to demonstrate the impact of globalization, viewed in terms of trade openness, on the skills distribution of labour markets in developing countries, and more specifically, on particular sectors of youth employment. The general conclusion is that there is a positive relationship between employment of middle-skilled workers and the relative trade openness of the sector. Given that levels of educational attainment in many developing countries are still heavily tilted towards lower levels but with an increasing trend toward secondary-level attainment, a push toward trade openness and offshoring could thus offer an expanding opportunity for absorption of emerging young labour market entrants in developing countries.

## **4. Africa**

### **Youth Employment in Sub-Saharan Africa**

Filmer, D. and Fox, L. (2014). Africa Development Forum; Washington, DC: World Bank and Agence Française de Développement.

<https://openknowledge.worldbank.org/handle/10986/16608>

This comprehensive World Bank report shows that young people in Africa, although the most educated ever, are finding that their prospects for employment and earnings differ very little from those of their parents. In a few countries, they are worse. Africa's young people seem to have no special advantage when it comes to modern wage employment. Employers seem to value the experience brought by older workers. At present, in a cross-section of African countries, the ratio of wage employment to total employment among youth is similar to the ratio in the general population. The implication is that firms have no special proclivity to hire youth. Youth employment in modern enterprises simply grows in proportion to the growth of modern enterprises—no more, no less.

Is demand for secondary-school graduates simply insufficient in Africa's modern wage sector, or is there a skills mismatch? Both of these problems appear to be present. Secondary and post-secondary graduates say they have trouble finding a job because of lack of demand. There is a much larger supply of labour for unskilled (factory floor) jobs than for skilled jobs as mechanics and factory engineers or for office jobs as accountants and managers. Meanwhile, employers are requesting permits to import experienced skilled labour. Graduates at all levels without technical training and some work experience face an especially crowded job market, reflecting an "aspirational" mismatch as much as a skills mismatch.

Internationally benchmarked learning assessments suggest that many young people lack the skills to compete in a global marketplace. Deep deficiencies in the quality of education mean that the effect of schooling on productivity is far below its potential. The poor quality of education directly constrains productivity and hinders individuals from acquiring new skills. These results suggest that school leavers have a fragile foundation on which to build more specialised skills.

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Even students who make it to the secondary level—those who will most likely head to the modern wage sector—are not globally competitive. Many lack the means, skills, knowledge, or connections to translate their education into productive employment. For young people to be productive in modern firms, governments should foster a strong foundation in basic skills by improving the quality of general education. In the training sector, governments should focus on “public goods” such as quality assurance and information to foster a sector that is efficient and relevant to the market for skills. Programmes for disadvantaged youth that integrate training with internships show promise, as do programmes offering managerial training.

### **Characteristics and macroeconomic determinants of youth employment in Africa**

Anyanwu, J. C. (2013). *African Development Review*, 25(2), 107-129.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8268.2013.12019.x/full>

This paper provides an econometric analysis of the determinants of youth employment in Africa. It uses cross-sectional time series data covering 48 African countries to empirically study the key drivers of youth employment during the period 1991–2009. Youth employment-to-population ratio for the age group 15–24 was used as the proxy variable. Macroeconomic factors, along with other control variables, acted as independent variables: domestic investment rate, government consumption expenditure relative to GDP, the inflation rate (percentage change in CPI), real per capita GDP, and real GDP growth. Data for these variables are largely drawn from the World Bank's WDI Online database.

The results show that the following variables are positively associated with youth employment: national domestic investment rate; real GDP growth; credit and access to finance; education; proportion of youth in total population; institutionalised democracy.

The results show that the following variables are negatively associated with youth employment: government consumption expenditures; level of real GDP per capita; foreign direct investment; trade openness (exports, especially oil); infrastructure.

The authors make the following recommendations based on their findings. Investment has a strong and positive effect on youth employment creation in Africa. This calls for increased productive domestic investment, public and private. As government consumption expenditure mostly reduces youth employment, achieving government expenditure effectiveness must remain as an active goal of governments in Africa. To promote youth employment and, in turn, to ensure the youth have complete access to productive resources, African countries should regulate the inflow of foreign capital to ensure labour-intensive industries are not displaced by globalisation. Trade openness significantly reduces youth employment in Africa. Without market knowledge, particular expertise, or competitive products and services, trade openness cannot work for employment creation in the continent. The value-chain approach needs to be adopted by African countries to add value to their products. Making credit for employment is important, especially in North Africa. Effective policies that invest in human capital of the workforce are needed. Policies that promote the up-skilling, better training and education for the low-skilled workforce are imperative, which will also help address the skills mismatches existing in many African countries. The promotion of effective democracy will help in the design of policies conducive to youth job creation.

### **Youth, Jobs, and Structural Change: Confronting Africa's “Employment Problem”**

Page, J. (2012). Working Paper Series N° 155 African Development Bank, Tunis, Tunisia.

<http://www.ilo.org/public/libdoc/igo/2012/478343.pdf>

This paper argues that Africa's “employment problem” is a symptom of its lack of structural change – the shift in resources from lower to higher productivity uses. The region's economies, despite good growth, have failed to create enough jobs capable of paying good wages to absorb a rapidly growing labour force. Driven by a delayed demographic transition, the share of youth

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(aged 15-24) in Africa has been rising over time and is now higher than in any other part of the world. In a majority of African countries the young account for more than 20 percent of the population. While the proportion of young people is projected to decline globally, it will stay at the same level in Africa for the foreseeable future. This demographic bulge offers the possibility of a growth dividend, if a rapidly growing work force can be combined with capital and technology. But it can also represent a major threat. Africa is not creating the number of jobs needed to absorb the 10-12 million young people entering its labour markets each year.

There is a severe mismatch between the skills possessed by young workers and those demanded by employers. In most African countries those with the highest education levels tend to take longer to search for a job and have higher unemployment rates than those who are less well educated. African countries with low unemployment rates tend to have a large informal sector, condemning many of their workers to vulnerable employment and working poverty. Youth in particular tend to lack mobility and the resources required to engage in active job search, or to relocate in order to take advantage of job opportunities elsewhere. Consequently, they may restrict job search to opportunities available close to where they reside. Simply put, new workers in Africa – especially the young – are increasingly moving from higher productivity to lower productivity employment.

## 5. Asia

### **Challenges and Opportunities for Skills Development in Asia: Changing Supply, Demand, and Mismatches**

Ra, S., Chin, B., & Liu, A. (2015). Asian Development Bank.

<https://www.adb.org/sites/default/files/publication/176736/challenges-and-opportunities-skills-asia.pdf>

The economic boom experienced in many Asian countries in the past three decades was driven partly by a large supply of young workers with relatively high levels of basic education but limited levels of advanced education and skills. Combined with low wages, this endowment of basic human capital was well suited to help Asian countries capture production line industries and basic services, seizing new opportunities brought about by globalisation. In turn, during this period of “catch-up,” Asia’s education systems were well suited to produce workers with the skills needed to support the expansion of employment in basic industry and service sector jobs. In particular, young workers were relatively well equipped with the knowledge and basic skills (including literacy, numeracy, and discipline) needed to spur productivity growth in industries focused on adoption of technologies from more advanced countries.

Skills mismatch is widespread in Asia and the Pacific. Overall, Asian education systems have arguably not kept pace with the emerging rapid shifts in skill demands. In addition to quantity-side dimensions, weak quality and relevance of education undermine contributions to the economy and workforce. Skills mismatch contributes to an apparent coexistence of undersupply and oversupply of skills: firms’ inability to find workers with required skills coexists with high unemployment and underemployment, especially among recent graduates. Even among graduates with advanced degrees, employers routinely complain that young people lack the skills actually required in the workplace.

### **The 'Demographic Dividend' and Young India's Economic Future**

Chandrasekhar, C., Ghosh, J., & Roychowdhury, A. (2006). *Economic and Political Weekly*, 41(49), 5055-5064.

<http://www.jstor.org/stable/4419004>

Consistent and moderately high GDP growth rates during most years since 1980 have encouraged optimistic projections about India's future growth potential. While aggregate labour force participation rates have risen, the same is not true of youth. Labour force participation rates

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have fallen quite substantially for male rural youth, and not increased for young women in rural areas either. In urban areas, there is a slight recovery of labour force participation rates from the low levels of 1999-2000 but only for young women in the age group 20-24 years is there evidence of any real increase. Youth unemployment was substantially higher than unemployment across the entire working age population, and also increased across all categories of young people – men or women, rural or urban. India is and for some time will remain one of the youngest countries in the world. A third of India's population was below 15 years of age in 2000 and close to 20 per cent were young people in the 15-24 age group. In 2020, the average Indian will be only 29 years old, compared with the average age of 37 years in China and the US, 45 in west Europe and 48 in Japan. Although India's economy has grown, the window of opportunity offered by a population bulge has not opened.

It is often held that the rapid growth of modern IT-driven services in India offers an opportunity to exploit the demographic dividend. However, the total IT industry employs only slightly more than one million workers, out of an estimated total workforce in India of more than 415 million, and urban workforce of around 110 million. Total employment in this sector is far short of even the annual increment in the youth workforce. This mismatch between the sector's contribution to GDP and its contribution to employment does suggest that, despite its high growth, this sector can make only a marginal difference to employment, even of the more educated groups in urban areas. Therefore, the expectation that the demographic dividend would itself trigger processes that would help exploit its benefits does not seem to be warranted in the Indian case. While the labour force is indeed expanding, the task of absorbing an increasingly youthful workforce has been postponed rather than undertaken.

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## 6. Evidence summary table

| Reference   | Region/<br>Country/<br>City | Method                         | Quality<br>(H,M,L) | Independent<br>variables<br>(‘features’)   | Impact on primary<br>outcomes (productivity,<br>employment, salaries)                            |
|---|-----------------------------|--------------------------------|--------------------|--|--|
| <p><b>Industrial Development Report 2013. Sustaining Employment Growth: The Role of Manufacturing and Structural Change</b><br/>UNIDO (2013). United Nations Industrial Development Organization.<br/><a href="http://www.unido.org/fileadmin/user_media/Research_and_Statistics/UNIDO_IDR_2013_main_report.pdf">http://www.unido.org/fileadmin/user_media/Research_and_Statistics/UNIDO_IDR_2013_main_report.pdf</a></p> | Global                      | Review, synthesis, interviews  | M                  | Changes to industrial manufacturing sectors  | Need for higher skills.  |
| <p><b>Urbanization and the Employment Opportunities of Youth in Developing Countries.</b><br/>Grant, U. (2012). Background paper prepared for EFA Global Monitoring Report.<br/><a href="http://unesdoc.unesco.org/images/0021/002178/217879E.pdf">http://unesdoc.unesco.org/images/0021/002178/217879E.pdf</a></p>   | LMICs                       | Review                         | L                  | Private sector; exports; TVET; manufacturing; agroprocessing; natural resources; tourism | Need for higher skills.  |
| <p><b>2014 African Transformation Report. Growth with Depth</b><br/>African Center for Economic Transformation (2014) African Center for Economic Transformation.<br/><a href="http://africantransformation.org/wp-content/uploads/2014/02/2014-african-transformation-report.pdf">http://africantransformation.org/wp-content/uploads/2014/02/2014-african-transformation-report.pdf</a></p>                             | Sub-Saharan Africa          | Reviews, synthesis, interviews | M                  | Economic transformation  | Youth do not have necessary skills for modern sector wage jobs. Emphasis on improving education. |

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|---|---------------------------|--|----------|---|---|
| <p><b>Youth Employment in Sub-Saharan Africa.</b><br/>         Filmer, D. and Fox, L. (2014). Africa Development Forum; Washington, DC: World Bank and Agence Française de Développement.<br/> <a href="https://openknowledge.worldbank.org/handle/10986/16608">https://openknowledge.worldbank.org/handle/10986/16608</a></p>                          | <p>Sub-Saharan Africa</p> | <p>Reviews, synthesis, interviews</p>  | <p>M</p> | <p>Smallholder farmers; non-farm household enterprises; modern sector wage jobs; youth skills</p>   | <p>Youth do not have necessary skills for modern sector wage jobs. Emphasis on improving basic education.</p>   |
| <p><b>Characteristics and macroeconomic determinants of youth employment in Africa.</b><br/>         Anyanwu, J. C. (2013). <i>African Development Review</i>, 25(2), 107-129.<br/> <a href="http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8268.2013.12019.x/full">http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8268.2013.12019.x/full</a></p> | <p>Africa</p>             | <p>Econometric modelling</p>           | <p>H</p> | <p>Domestic investment rate, government consumption expenditure relative to GDP, the inflation rate (percentage change in CPI), real per capita GDP, and real GDP growth.</p> | <p>Each variable has a different impact on youth employment.</p> <p>Positively associated with youth employment: national domestic investment rate; real GDP growth; credit and access to finance; education; proportion of youth in total population; institutionalised democracy.</p> <p>Negatively associated with youth employment: government consumption expenditures; level of real GDP per capita; foreign direct investment; trade openness (exports, especially oil); infrastructure.</p> |
| <p><b>Urbanization and the Employment Opportunities of Youth in Developing Countries.</b><br/>         Grant, U. (2012). Background paper prepared for EFA Global Monitoring Report.<br/> <a href="http://unesdoc.unesco.org/images/0021/002178/217879E.pdf">http://unesdoc.unesco.org/images/0021/002178/217879E.pdf</a></p>                           | <p>Global</p>             | <p>Review, synthesis, case studies</p> | <p>M</p> | <p>Urbanisation</p>   | <p>Urbanisation mostly pushes youth into informal insecure work. However, this develops entrepreneurial skills, which might be used to drive economic growth.</p>   |

|   |              |                       |   |  |   |
|---|--------------|-----------------------|---|--|---|
| <p><b>Challenges and Opportunities for Skills Development in Asia: Changing Supply, Demand, and Mismatches.</b><br/>Ra, S., Chin, B., &amp; Liu, A. (2015). Asian Development Bank.<br/><a href="https://www.adb.org/sites/default/files/publication/176736/challenges-and-opportunities-skills-asia.pdf">https://www.adb.org/sites/default/files/publication/176736/challenges-and-opportunities-skills-asia.pdf</a></p> | Asia-Pacific | Review, synthesis     | M | Skills development   | Young people will only benefit if they have the right skills. Widening skills mismatch – graduates do not have the necessary workplace skills.  |
| <p><b>Education in a changing world: flexibility, skills, and employability.</b><br/>Wang, Y. (2012). Washington, DC: World Bank.<br/><a href="http://documents.worldbank.org/curated/en/517491469672142098/Education-in-a-changing-world-flexibility-skills-and-employability">http://documents.worldbank.org/curated/en/517491469672142098/Education-in-a-changing-world-flexibility-skills-and-employability</a></p>   | Global       | Review                | L | Skills development and educational reform                        | Education systems are not delivering employable skills.   |
| <p><b>Youth, Jobs, and Structural Change: Confronting Africa's "Employment Problem".</b><br/>Page, J. (2012). Working Paper Series N° 155 African Development Bank, Tunis, Tunisia.<br/><a href="http://www.ilo.org/public/libdoc/igo/2012/478343.pdf">http://www.ilo.org/public/libdoc/igo/2012/478343.pdf</a></p>   | Africa       | Review, synthesis     | L | Industrialisation, transformation to higher productivity sectors | Africa is not transforming to higher productivity. Youth are employed in the informal sector/vulnerable employment. Demographic dividend will not be realised unless economies transform. |
| <p><b>The 'Demographic Dividend' and Young India's Economic Future.</b><br/>Chandrasekhar, C., Ghosh, J., &amp; Roychowdhury, A. (2006). Economic and Political Weekly, 41(49), 5055-5064.<br/><a href="http://www.jstor.org/stable/4419004">http://www.jstor.org/stable/4419004</a></p>  | India        | Synthesis             | L | Demographic dividend   | While India's economy and employment has grown, this has not particularly benefited youth. Youth continue to have higher rates of unemployment than adults, and a skills mismatch.        |
| <p><b>Age structure and productivity growth</b><br/>Sevilla, J. (2007). Institute for Future Studies<br/><a href="http://docplayer.net/1474558-Age-structure-and-productivity-growth.html">http://docplayer.net/1474558-Age-structure-and-productivity-growth.html</a></p>  | LMICs        | Econometric modelling | H | Productivity and age   | Productivity increases when members of a youth bulge become adult and enter the workforce   |

|   |        |                               |   |                         |   |
|---|--------|-------------------------------|---|-------------------------|---|
| <p><b>Global demographic change: Dimensions and economic significance</b><br/> Bloom, D. E., &amp; Canning, D. (2004). (No. w10817). National Bureau of Economic Research.<br/> <a href="http://www.nber.org/papers/w10817">http://www.nber.org/papers/w10817</a></p>   | Global | Econometric modelling         | H | Economic growth and age | The demographic transition can bring economic growth if the policies and institutions are 'right'.  |
| <p><b>The Least Developed Countries Report 2013. Growth with employment for inclusive and sustainable development.</b><br/> UNCTAD (2013). UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT.<br/> <a href="http://unctad.org/en/PublicationsLibrary/ldc2013_en.pdf">http://unctad.org/en/PublicationsLibrary/ldc2013_en.pdf</a></p>   | LDCs   | Review, econometric modelling | M | Demographic dividend    | Growth has not resulted in a demographic dividend. Youth unemployment is high.  |
| <p><b>Fiscal policy and the youth labour market</b><br/> Ebell, M., &amp; O'Higgins, N. (2015). EMPLOYMENT Working Paper No. 200. International Labour Organization.<br/> <a href="http://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_466541/lang--en/index.htm">http://www.ilo.org/employment/Whatwedo/Publications/working-papers/WCMS_466541/lang--en/index.htm</a></p> | Europe | Econometric modelling         | H | Youth unemployment      | In order to reduce youth unemployment and increase youth employment, governments should increase expenditure and reduce taxation during recessions, whilst doing the opposite in when the economy is expanding. |
| <p><b>What are the effects of job polarization on skills distribution of young workers in developing countries?</b><br/> Gemmel, P. (2016). Technical Brief No.7. ILO<br/> <a href="http://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_534635.pdf">http://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_534635.pdf</a></p>                    | Global | Econometric modelling         | H | Trade openness          | Trade openness employs more middle-skilled workers, which may include more young people.  |

## 7. Methodology

Literature was searched using keywords in Google and Google Scholar. Search strings included the terms "economic transformation" productivity youth; productivity youth employment; youth skills productivity; youth "comparative advantage"; youth skills "comparative advantage"; youth opportunity industrialising; youth demographic bulge; demographic dividend youth.

This produced an initial list of literature, from which further resources were identified through snowballing the reference lists and citations.

Hand-searches were conducted of the following websites: ILO, GSDRC, EPS PEAKS.

Experts were also consulted for their comments and recommendations for literature.

## 8. Further resources

### **World employment and social outlook: trends 2016.**

Horne, R., Khatiwada, S., & Kuhn, S. (2016). ILO. <http://www.ilo.org/global/research/global-reports/weso/2016/lang--en/index.htm>

### **Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific**

Maclean, R., Jagannathan, Sh., and Sarvi, J. (editors). (2013). Asian Development Bank. <https://www.adb.org/sites/default/files/publication/30071/skills-development-inclusive-growth-asia-pacific.pdf>

### **Exploring the links between skills and productivity: final report.**

Gambin, L., Green, A. E., & Hogarth, T. (2009). Warwick Institute for Employment Research. [https://www2.warwick.ac.uk/fac/soc/ier/publications/2009/gambin\\_et\\_al\\_2009\\_skills.pdf](https://www2.warwick.ac.uk/fac/soc/ier/publications/2009/gambin_et_al_2009_skills.pdf)

### **Productivity, Investment in Human Capital and the Challenge of Youth Employment.**

Fashoyin, T., & Tiraboschi, M. (editors) (2011). Cambridge Scholars Publishing <http://www.cambridgescholars.com/productivity-investment-in-human-capital-and-the-challenge-of-youth-employment-15>

### **The demographic dividend: A new perspective on the economic consequences of population change.**

Bloom, D., Canning, D., & Sevilla, J. (2003). Rand Corporation. <https://books.google.co.uk/books?isbn=0833033735>

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