IGC 10 years

# Little book of growth ideas

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IGC 10 Little book of growth ideas

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The International Growth Centre (IGC) aims to promote sustainable growth in developing countries by providing demand-led policy advice based on frontier research. The IGC directs a global network of world-leading researchers and in-country teams in Africa and South Asia and works closely with partner governments to generate high quality research and policy advice on key growth challenges. Based at LSE and in partnership with the University of Oxford, the IGC is majority funded by the UK Department for International Development (DFID).

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# Little book of growth ideas

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# Introduction

Between 1990 and 2015, the proportion of the world living in extreme poverty more than halved as economic growth lifted millions of people out of poverty. Building on this progress, the UN Global Goals ambitiously aim to eliminate extreme poverty by 2030.

The International Growth Centre (IGC) believes that inclusive economic growth is the only route to achieving prosperity and sustained reductions in poverty. We bring top economists from around the world together with reform-minded policy makers in developing countries to produce pioneering research and use this research to generate innovative solutions to guide policy reforms.

Since the IGC began in 2009, we have cultivated some of the most transformational ideas in development economics – ideas that have changed long-held notions about growth,





expanded new bodies of knowledge in under-explored areas, and driven policy reform in developing countries. This little book presents a selection of these ideas.

The evidence cited is research the IGC has directly supported, either through funding or our academic leadership. New ideas typically build on previous knowledge and we would like to recognise the many researchers who haven't been mentioned, but whose work has contributed to these ideas. The ordering of the ideas is not meant to reflect any hierarchy of importance.

The little book presents groups of ideas around what we believe are primary drivers of growth. We are excited to share these ideas with you and hope you enjoy this book!

The little book was edited and compiled by Nidhi Parekh (IGC), Emilie Yam (IGC), and Tim Dobermann (LSE), with the support of Jamie Green (IGC) and Sahib Singh (IGC). We thank all researchers cited for their contributions.

**While poverty has steadily declined globally, it remains high in sub-Saharan Africa and South Asia. This is due to unequal access to opportunities and wealth.**

**IGC researchers have contributed crucial evidence to inform pioneering approaches to eliminating extreme poverty and inequality through providing one-off asset transfers and skill training aimed at marginalised sections of society.**

**Idea 1**
**A 'big push', through providing assets and skills, can lift the ultra-poor permanently out of poverty.**

**Idea 2**
**Enhancing girls' soft skills can help them become their own agents of change.**

# Idea 1 – A 'big push', through providing assets and skills, can lift the ultra-poor permanently out of poverty.

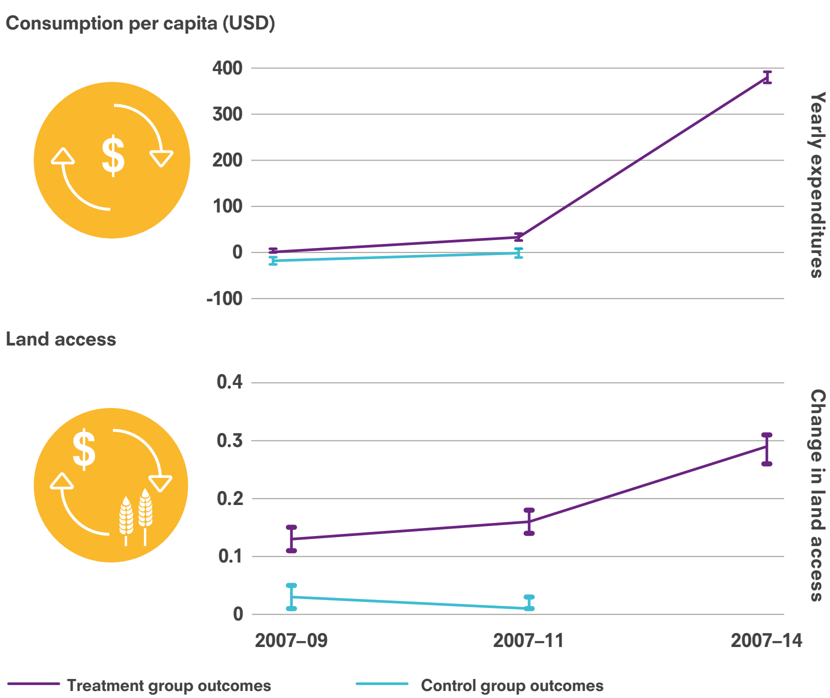


Over 730 million people live below the international poverty line of $1.90 per day. Among these, the 'ultra-poor' – the most vulnerable subgroup – suffer income poverty compounded by sociocultural marginalisation. This group has been particularly hard to reach with anti-poverty programmes because the ultra-poor are disconnected from markets and social services. Most are women who often lack the skills and capital to lift themselves out of poverty – creating a poverty trap.

Boosting the productivity of the ultra-poor is essential to achieving inclusive growth but the majority of social assistance programmes support regular but small increases in consumption, rather than income generation capability. IGC evidence shows that a one-off programme providing the ultra-poor with both assets and skills allows them to escape the poverty trap, suggesting a strong link between the type of work the poor can access and their ability to escape poverty.

**Figure 1**

**Impact of the ultra-poor programme on household expenditures and land access**




Please note: In 2011, the programme was scaled up to all eligible study households, including those previously serving as controls. As such, land access and expenditure outcomes from 2011–2014 are illustrated without a control group comparison.

Source: Bandiera et al. 2017





### The evidence

A ground-breaking 'graduation' approach pioneered by BRAC, a global NGO, addresses both the ultra-poor's lack of assets and skills, and aims to graduate them out of extreme poverty. In Bangladesh, ultra-poor women receive a one-off, 'big push' in the form of livestock and two years of training to help them work with the livestock.

IGC researchers (Bandiera et al. 2017) completed a rigorous randomised control trial (RCT)[1] seven-year evaluation of the programme in rural Bangladesh and found the ultra-poor are limited to irregular, poorly paid agricultural and domestic maid jobs. Their hourly earnings would be twice as high rearing livestock, the work the richer women in the villages do which is more regular and stable.

After four years, women taking part in the programme had shifted to more regular, more productive work by adding livestock hours and taking hours away from casual work as agricultural labourers and domestic maids. They worked 25% more days and increased earnings by 37%. Seven years after the start of the programme, they continued their trajectory out of poverty. Their access to rented or owned land was also two times higher than in year four. Though it requires large up-front investment, the programme was found to be highly cost-effective, with an internal rate of return of 22% after four years.

### Impact and implications

Studies by the IGC and other researchers have shown 'big push' programmes to be scalable and necessary in many contexts and countries with similar impacts – more stable self-employment and increased savings (Banerjee et al. 2015). This evidence has contributed to the expansion of the graduation approach: according to BRAC, it's been adopted by 114 programmes in 45 countries, with a large portion being government-implemented. By uncovering direct evidence of a poverty trap, this work is changing the way we think about welfare (Balboni et al. 2019). It is increasingly recognised that a 'big push' to change production and employment activities is needed for the poor to permanently exit poverty. Hence the term "productive welfare". The insights from this work are also relevant for developed countries. Further research will explore variations of the programme to reduce cost, such as having households repay some of the asset costs, and adapting it for urban households. Adaptations such as these will be useful in spreading this 'big push' approach.

1 An RCT evaluates a policy or programme by randomly assigning it to a group of people (treatment group), while the other people (control group) do not receive any intervention.

# Idea 2 – Enhancing girls' soft skills can help them become their own agents of change.

Only 26% of women over the age of 15 are employed in South Asia (modelled ILO, 2018). Low levels of female labour force participation constrain welfare and economic growth (Hsieh et al. 2019). Yet several factors, particularly social norms, hinder women's productive employment. While there is evidence on how formal education helps women reach their potential, an IGC study focuses on how social and emotional skills empower girls by equipping them to become their own agents of change.

**The evidence**

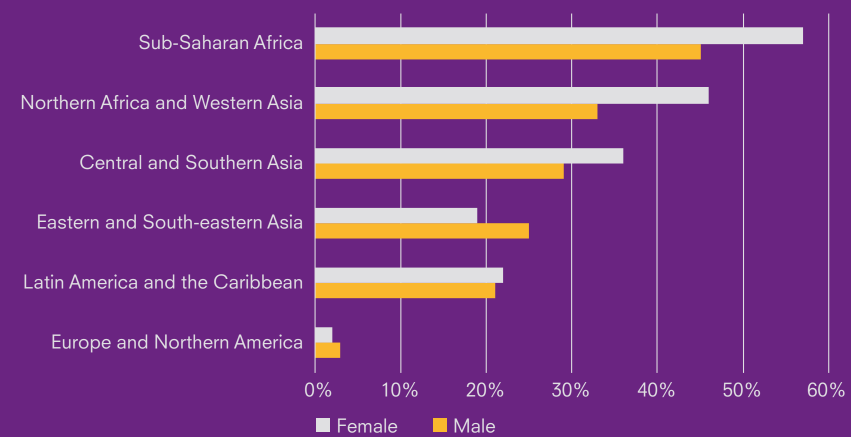
Faced with limited resources and patriarchal social norms, families in developing countries tend to support the education of sons, meaning girls are more likely than boys to drop out of high school. This leaves girls without the skills or resources to support themselves, making them highly susceptible to marrying early, relying on male partners for resources, or even engaging in transactional sex.

To address this social problem, IGC researchers (Ashraf et al. 2013) evaluated a unique programme aimed at teaching negotiation skills to secondary school girls in Zambia. Girls in their early teens drop out of school in Zambia at a rate three times higher than boys, a trend exacerbated by the need for fee payments starting in secondary school. The study found that equipping girls with negotiation skills improved their educational outcomes over the next three years by allowing daughters to cooperate more effectively with their parents. Girls asked their parents for more food and parents found their daughters to be more respectful and more willing to do chores.



**Figure 2**

**Percentage of girls and boys of upper secondary school age who are not in school**




Source: World Inequality Database on Education (WIDE), UNESCO Institute for Statistics (UIS)





Another IGC study (Bandiera et al. forthcoming) studied the impact of a multifaceted policy intervention attempting to jumpstart adolescent women's empowerment in Uganda. The intervention simultaneously provided adolescent women with vocational training and information on sex, reproduction and marriage. The study found that four years post-intervention, women in treated communities were 48% more likely to engage in income generating activities. Teen pregnancy and early entry into marriage or cohabitation fell. Strikingly, the share of girls reporting sex against their will dropped by close to a third.

**Impact and implications**

Based on the results of Ashraf et al. (2013), the Zambian Ministry of Education introduced a revised life skills curriculum for multiple grades throughout the country which included a summarised version of the programme's negotiation curriculum. Girls participating in the programme have reported less hunger and more control over their future lives.

Female empowerment remains a multidimensional concept that requires multidimensional solutions. In contexts where parents and children have different preferences over educational investment, young women should be taught non-cognitive skills that facilitate strategic cooperation. Further research is required to better understand the aggregate and individual effects of empowering women, and the effectiveness of different interventions to overcome the barriers, particularly societal norms.

Photo: GPE and Carine Durand

Through its civil service, a capable state raises revenues and provides key public services. These services enhance welfare and create the conditions for sustainable growth. But good public services require good public servants.

This section explores ideas on how to hire and motivate civil servants to design and deliver effective public services.

**Idea 3**
**Compared to social incentives, career incentives attract better performing employees to public sector jobs.**

**Idea 4**
**Merit-based pay or job postings can improve civil service performance as long as they do not undermine employee autonomy.**

# Idea 3 – Compared to social incentives, career incentives attract better performing employees to public sector jobs.

The effectiveness of the civil service is increasingly seen as a key driver of economic growth and development (Besley and Persson, 2011; Acemoglu and Robinson 2012; Pepinksy et al. 2017). This entails the professionalisation of public service delivery: qualified, career professionals replace informal providers with strong connections to beneficiaries and willing to work for modest pay. Does a career in the civil service attract talent at the expense of prosociality? Does it draw in people who underperform relative to those attracted by "doing good"? IGC research has shown that offering career incentives improves the selection of civil servants and leads to better performance.

**The evidence**

An IGC experiment in Zambia (Ashraf et al. 2016) embedded an experiment in a nationwide recruitment drive for a new healthcare position in Zambia to test whether career benefits attract talent at the expense of prosocial motivation. The research compared two adverts: one that promoted career incentives – through job ads promoting career advancement – and the other, social incentives – with job ads listing 'helping the community' as the main benefit.

In line with common wisdom, the research found that emphasising career opportunities attracted fewer prosocial applicants. However, the trade-off only existed at low levels of talent; the marginal applicants in the career incentives advert group were more talented and equally prosocial. Workers recruited via career incentive ads conducted 29% more household visits and twice as many community mobilisation meetings over the 18-month period of the study. This also led to improved health outcomes, including a 25% reduction in the share of underweight children in areas with career incentive ads, and improved health behaviours including births at health facilities, breastfeeding, immunisations, and deworming.

The findings allay the concern that offering material rewards for public sector jobs displaces applicants with desirable social preferences and ultimately worsens the quality of services provided. Similarly, Dal Bo et al. (2013) found that higher salaries for civil service jobs in Mexico attracted better qualified candidates with the same level of pro-social preferences.

**Impact and implications**

In 2018, the World Health Organization recommended, as part of a major guideline document on managing community health worker (CHW) programmes that "a career ladder should be offered to practising CHWs", based entirely on the findings from IGC's study in Zambia.

The findings also have implications for policies such as maintaining the volunteer status of community-based work, or low salaries and lack of career incentives in teaching professions (Lehmann and Sanders 2007). Further work is required on how hiring career-minded individuals affects performance across different civil service jobs, particularly positions that aren't new, and long-term outcomes such as employee turnover.



# Idea 4 – Merit-based pay or job postings can improve civil service performance as long as they do not undermine employee autonomy.

In seeking to improve civil service performance, effective recruitment policies are important, as discussed in Idea 3 – but they are not enough. Long-term performance also depends on the job environment and the incentives which motivate better job performance. Well-designed rewards linked to job performance can help improve public sector outcomes.

**The evidence**

An IGC experiment (Khan et al. 2016) collaborated with the provincial government in Punjab, Pakistan to look at the effect of merit-based incentives. It found that in areas where tax collectors were offered large performance-based cash incentives, revenue increased by 13 percentage points more than in areas without incentives. The revenue raised was much higher than the cost of providing the incentives.

Turning their focus to non-financial rewards, the researchers (Khan et al. 2019) found that performance-based job transfers are an effective way of motivating employees. In areas where the choice of posting of tax inspectors was linked to their performance, the growth rate of tax revenue increased by 30 to 40%.

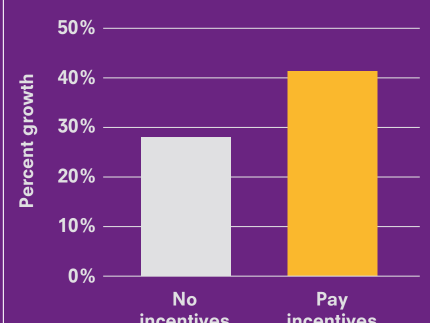
The effectiveness of incentives, however, depends on the complexity and characteristics of the underlying tasks. IGC research on the Nigerian civil service shows that in the case of public investment projects, performance-based incentives can reduce bureaucrats' performance. Greater autonomy, on the other hand, is associated with higher project completion rates (Rasul and Rogger 2018) and lower procurement costs (Bandiera et al. forthcoming).

**Impact and implications**

In places where a large scale restructuring of government salary structures may be difficult, leveraging even a small portion of the wage bill toward merit-based incentives or using non-financial incentives may yield considerable results.

Ongoing IGC research is looking at how management and financial incentives interact with each other. Future research will explore how to foster institutional cultures of diligence, pride and professionalism, and how data and technology can be leveraged to support better public sector performance.

**Figure 3**
**Pay for performance increased property tax revenue collected in Pakistan**




Note: The difference is significant at the 1% level.
Source: Khan et al. 2016

Public finance – government revenues and expenditure – is the foundation of the state, and is fundamental to redistribution and inclusive growth. At its core is a social contract between citizens and the state. The state promises to to provide effective services, and citizens promise to pay the stipulated taxes.

This section looks at how this relationship can be strengthened, and the role technology can play in improving compliance and service delivery.

**Idea 5**
'Third-best' tax policies, inefficient in developed countries, can be effective in developing countries.

**Idea 6**
Technology such as mobile payments and digitised records can help reduce public sector wage bills by eliminating 'ghost workers'.

**Idea 7**
Innovations such as electronic billing machines and machine learning can reduce public finance leakages.

# Idea 5 – 'Third-best' tax policies, inefficient in developed countries, can be effective in developing countries.

Tax revenues are essential for growth and development. They enable the delivery of public services and strengthen government accountability. The inability to tax is, therefore, both a symptom and a cause of underdevelopment (Newbery and Stern 1987). If citizens see little benefit from public services, they are less willing to pay taxes to what they perceive as an ineffective state. Traditional tax models assume that tax authorities face informational barriers to tax collection that restrict the instruments available. Evidence shows a 'third-best' tax policy approach could be more effective in some developing countries, where severe informational barriers are compounded by enforcement constraints (Kleven et al. 2016).

### The evidence

A 'first-best' approach to taxation assumes idealised conditions where governments face no barriers to information or enforcement. Under this approach, taxes are lump sum and based on an individual's inherent ability or 'type'. Accepting that some informational barriers are inevitable, second-best policies, which are the most common, aim to maximise social welfare with the instruments available, namely taxes on observable transactions (such as income and consumption) not ability.

However, the emphasis on production efficiency that characterises second-best policies ignores the constraints to enforcement and administration that face developing countries. In such cases, second-best approaches often generate very low levels of revenue. Optimal tax policies and instruments in developing countries may look very different to those in developed countries.

IGC research in Pakistan shows that once tax evasion or informality in the economy is taken into account, there may be a role for taxes that distort production. These taxes do reduce productive efficiency but they can reduce evasion by even more. Best et al. (2014) show that implementing traditionally inefficient turnover taxes (i.e. taxes on gross revenue) can reduce evasion by up to 60–70% of corporate income. The revenue gains from increased tax compliance significantly outweigh the lost production efficiency.

### Impact and implications

Achieving higher tax revenues in developing countries is not simply a matter of increasing taxes – it requires careful consideration to identify optimal tax instruments. Reforms to increase revenues must overcome barriers to collection and enforcement. Instruments must be flexible enough to adapt to changing public finance infrastructure and constraints.

A new wave of research on taxation and development, drawing heavily from rich administrative data, is providing new insights into how tax systems function in developing countries. From tackling tax evasion and enhancing tax administration to boosting tax morale, researchers are showing how information and enforcement barriers can warp 'best practice' tax policies and finding new ways to overcome these barriers.







### First-best

**First-best approaches** form a 'perfect' tax system, where there are no barriers to information or enforcement. In practice, these are not used as they are impractical and inequitable (e.g., lump sum tax).

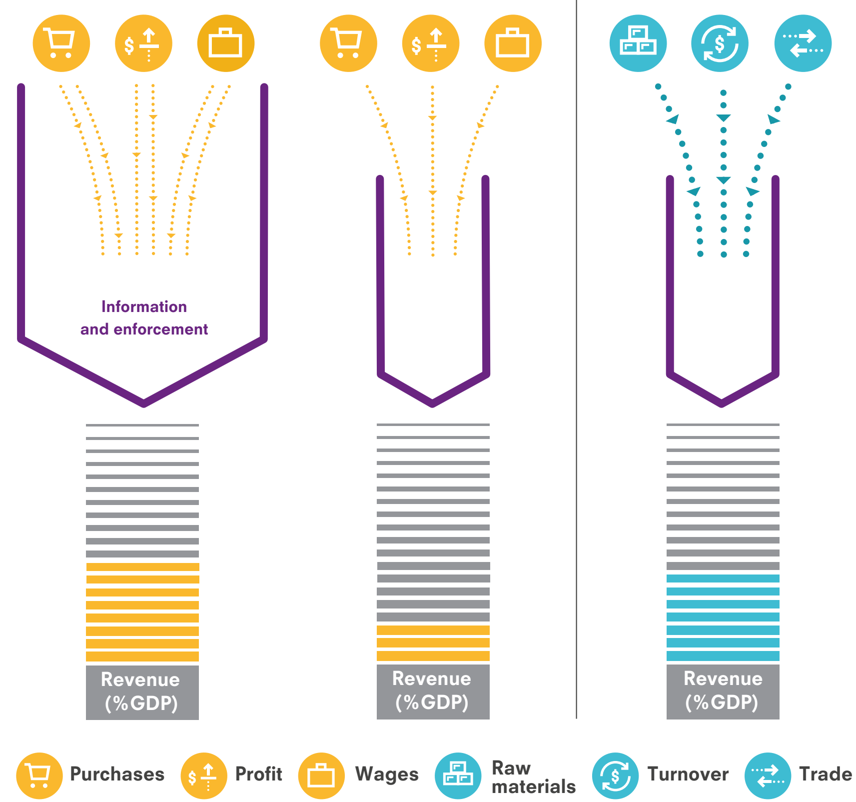
### Second-best

**High-income countries** use **second-best approaches** to tax collection and maintain production efficiency. With good information and enforcement, they can collect **30–40% of GDP** in revenue.

**Low-income countries** use the same approach. But a lack of information and enforcement capacity means that they can typically generate only **10–15% of GDP** in revenue.

### Third-best

In many low-income countries, a **third-best approach**, which addresses limits to information and enforcement, could reduce tax evasion and generate more revenue.




Source: Kleven et al. 2016

# Idea 6 – Technology such as mobile payments and digitised records can help reduce public sector wage bills by eliminating 'ghost workers'.

Photo: Getty AFP and Sia Kambou

To deliver effective public services, developing country governments need solutions to minimise the scarce public resources that are lost to waste and corruption. The public sector wage bill is usually the single largest government expenditure item. In Afghanistan, it is almost 60% of the budget. One significant drain on public funds is 'ghost workers' – employees who receive a salary but do not work, or do not exist. Ghana's government, for example, estimated in 2017 that ghost workers were costing them over $100 million a year. Emerging research is examining the impact of introducing technological solutions such as paying public employees through mobile payments and digitising death records, on curbing the amount of funds wasted on ghosts.

**The evidence**
An IGC pilot study (Blumenstock et al. 2015), implemented in close collaboration with the Afghan government, evaluates the effects of introducing identity verification through mobile salary payments for employees in two ministries. Initial results indicate a high level of employee satisfaction with the new payment method, and a significant reduction in the money spent by the ministry on salaries overall.

Another IGC study under way in Ghana (Lagakos, ongoing) is developing a system to digitally record deaths in real time and use this electronic central death registry to create a web portal that government agencies and other interested parties can access. The study aims to help the Ghanaian government identify ghosts on its payrolls.

**Impact and implications**
The research in Afghanistan, undertaken in close collaboration with the Office of the President, will drive the transition to mobile payments for around 364,000 employees in two ministries over the next two years. On current estimates, the production of accurate employee information through the programme will reduce the payroll bill by about 7%.

To design effective solutions, more evidence is needed on exactly how much of government salary payments are lost to corruption as well as on the effectiveness of strategies such as digitising death records, as in the Ghana study, compared to that of shifting to mobile salary payments. Further, the IGC is exploring other technological mechanisms to reduce leakages in government (Idea 7). In short, it is clear that the digitisation of government functions has the potential for big returns.



# Idea 7 – Innovations such as electronic billing machines and machine learning can reduce public finance leakages.

Government plays a crucial role in inclusive growth not only through fostering productivity in the private sector but also through redistributing wealth and boosting human capital. A new wave of innovations is changing how governments function. Will these technologies lead to more effective collection and use of public resources? Or will they create opportunities for corruption and state control? The IGC has been working closely with governments to test the effectiveness of various technologies. Findings indicate that innovations such as electronic billing machines and machine learning have the potential to reform the public sector if certain constraints are alleviated.

**The evidence**
The rapid innovation in information and communications technologies (ICTs) has provided tax authorities with new enforcement tools to improve the functioning of Value Added Tax (VAT) systems. One such innovation is electronic billing machines (EBMs), which provide electronic audit trails and real-time transaction records (Gerard et al. 2018). An IGC study (Eissa et al. 2014) showed that the roll-out of EBMs improved tax compliance in Rwanda.

EBMs and similar technologies provide a wealth of data that can be harnessed to enhance public services. In India, the low VAT compliance of firms has been a persistent problem in raising public revenue. IGC researchers Mittal et al. (2018) used a large-scale tax dataset and machine learning tools to identify potentially 'bogus' firms, which inspections should focus on. They estimated that this approach could recoup $30 million in potential additional revenue.

Along with improving compliance, the digitisation of government services could lead to better accountability and service delivery. IGC researchers Lewis-Faupel et al. (2016) looked at the impact of electronic procurement systems in India and Indonesia and found that e-procurement was associated with better roads and reduced project delays.

**Impact and implications**
IGC researchers, Bandiera et al. (2017), developed an online procurement system along with the Punjab Information Technology Board. The government now wants to mainstream this system, scaling it up to the entire province and all departments.

Governments face a plethora of challenges while designing and delivering public services. New innovations have the potential to assist with these challenges. However, there is a lot of uncertainty and fear about their potential effects. Evidence that new technologies have substantially positive welfare impacts can encourage the adoption of such technologies by both governments and citizens. However, new technologies often face new adoption constraints. On-going IGC work is identifying these constraints, innovative methods to overcome them, and as different ways to harness data to increase the efficiency of the public sector.

Strong governance and committed political leadership can drive economic transformation and manage the trade-offs involved in the disruptive process of growth. However, many politicians and institutions do not act in the best interest of the public they represent due to misaligned incentives and a lack of accountability. This often results in poor provision of public services and sluggish growth rates.

This section presents evidence on democracy, information, and inclusive growth.

**Idea 8**
**New and credible information on political candidates can change voter behaviour but how and when information is provided matters.**

**Idea 9**
**Democracy, even if new and imperfect, can improve resource allocation in developing countries.**

# Idea 8 – New and credible information on political candidates can change voter behaviour but how and when information is provided matters.

Electoral accountability helps to ensure that the needs of the many are met in a democracy, facilitating policies to promote inclusive growth. Pre-election information, usually disseminated through political debates or campaigns, are crucial to holding politicians accountable. However, in a world ripe with fake news and echo chambers, little research has focused on how and when information affects voting behaviour and election results. Recent evidence shows that certain information can change voter behaviour and increase political accountability.

**The evidence**

Strong evidence on the effectiveness of information interventions comes from an early IGC study (Banerjee et al. 2011). The researchers distributed newspapers containing report cards on politicians in Indian slums prior to elections and found that greater transparency resulted in gains for better performing and more qualified incumbents.

Further, evidence from an IGC study (Bidwell et al. forthcoming) in Sierra Leone found that showing debates between parliamentary candidates to voters in the run-up to the 2012 general elections increased voters' general political awareness and knowledge of candidate qualifications and policy stances. This knowledge translated into a 3.5 percentage point average increase in vote shares for the candidates who performed best during the debates. Also, elected politicians who participated in debates as candidates behaved more accountably in office, hosting more meetings with their constituents and spending more public funds on development projects.

However, a recent initiative compared results from seven coordinated studies on the relationship between information and voter behaviour, and found no effects of directly providing voters with information in private settings, though variants of the treatment sometimes did produce positive effects is some studies (Dunning et al. 2019). This surprising lack of impact is likely due to difficulties voters have internalising information that has not been sufficiently contextualised (by experts, peers, or pundits). This highlights the importance of the conditions under which the information is provided.

**Impact and implications**

Following the success of the 2012 study in Sierra Leone, the IGC partnered with the National Electoral Commission and major political parties in the run-up to the 2018 elections in Sierra Leone. The IGC supported the hosting of both intra- and inter-party debates, with the latter debates between members of parliament broadcast on various television channels and across 40 radio stations.

While new, credible and well-timed information linked to voters' welfare is more likely to be effective (Grossman et al. forthcoming), based on Dunning et al. (2019)'s results, more research is needed on the different conditions and contexts under which information has an impact.





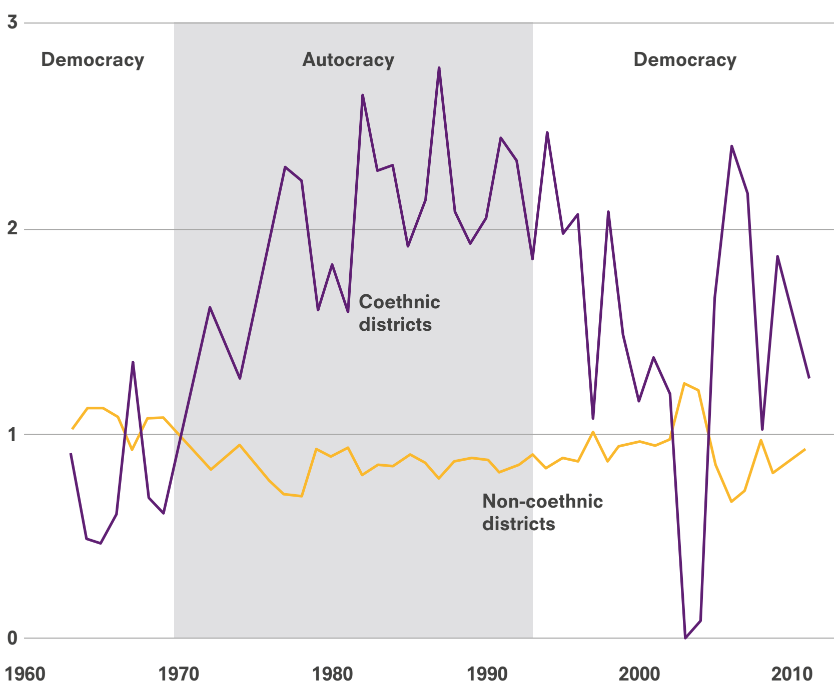
Photo: USAID and Flickr

# Idea 9 – Democracy, even if new and imperfect, can improve resource allocation in developing countries.

In 2018, for the 13th consecutive year, countries that suffered democratic setbacks outnumbered those that registered gains (Freedom House). This trend has stimulated debates around whether democracy is good for economic growth and development. Could autocracies prove to be better vehicles of development? Are funds better distributed when there is no voter base to pacify and no money to raise for election campaigns? Or do people in power favour certain groups when there are fewer checks in place? Evidence from a new study shows that democracy can have powerful effects on allocation of public resources within a country.

**The evidence**
An IGC study (Burgess et al. 2015) evaluated the value of democracy by analysing the impact of political regime type on ethnic favouritism in Kenya – a context where ethnicity plays a key role in politics. Specifically, the researchers looked at whether expenditure on road building, the single largest item of development public expenditure in Kenya, is dependent on the ethnicity of the president. Ethnic biases are often blamed for underdevelopment in Africa (Easterly and Levine 1997). Since two successive presidents of different ethnicities, Jomo Kenyatta and Daniel Arap Moi, had each been in power across different regimes – democracy and autocracy – the researchers were able to separate the effects of the regime type from that of the individual leader.

**Figure 4**
**Road expenditure in presidential coethnic and non-coethnic districts in Kenya, 1963–2011**




Source: Burgess et al. 2015

The researchers found that even in an imperfect and infant democracy, favouritism is substantially lower and economic growth higher than in periods of autocratic rule. Districts that shared the ethnicity of the president received twice as much expenditure on roads and five times the length of paved roads during periods of autocracy. Both these biases disappear during periods of democracy. This was in part due to strong regulation of the power of top executives under democracies, as well as an increase in political choice and participation, and greater freedom of expression. In effect, democracy made the Kenyan government more accountable to the Kenyan population, ensuring that the allocation of roads was distributed more equitably.

**Impact and implications**
Democracy, by its very design, is supposed to ensure more accountability and constrain executive action. However, there has been little evidence to show whether it actually succeeds in doing so. Burgess et al. show that even an imperfect and infant democracy is associated with higher growth and lower ethnic favouritism.

While this study is limited to expenditure on roads, it is easy to extrapolate that if a democracy leads to a more efficient and equitable distribution of public resources driven by development rather than corrupt motives, it is likely to lead to higher and more equitable economic growth.

The researchers show that economic growth in Kenya and in Africa as a whole is highest during the democratic periods (the 1960s, 1990s, and 2000s) and falls toward zero during autocratic periods.

This work adds to the body of work pioneered by Daron Acemoglu and James Robinson on the need for strong democratic institutions to ensure equitable economic development. It also sheds light on the recent political and economic performance of many African countries, as well as the broader question on the value of democracy versus autocracy. Further work is required to causally link democracy to specific results as well as aggregate economic outcomes. It would also be useful to understand how democracy fosters institutional changes which constrain public resource misallocation and underpin economic growth.

Most firms in developing countries, particularly in sub-Saharan Africa, are not very productive and generate few job opportunities. Participating in global trade and increasing regional integration could help countries kick-start industrialisation and develop a more dynamic private sector.

Our evidence demonstrates the benefits of trade and the barriers to accessing these benefits, constraints to the growth of small businesses, and the role of government in supporting trade and firm growth.

## Idea 10

Exporting drives even small firms to become more efficient and produce better quality products.

## Idea 11

More flexible loan contracts could significantly enhance the impact of microfinance on borrower income and productivity.

## Idea 12

Reforming African investment agencies can enhance job creation from foreign direct investment.

## Idea 13

Reducing the costs of moving goods within Africa would help countries gain more from international trade and tackle regional inequality.

# Idea 10 – Exporting drives even small firms to become more efficient and produce better quality products.



Small and medium-sized enterprises (SMEs) provide the majority of jobs in developing countries, yet they have low productivity and very few exports. While much attention has been given to export-led-growth strategies, it isn't clear whether it is the most productive firms that export, or if it is experience of exporting that increases productivity. The traditional view has been that international trade mainly benefits large companies, but a growing body of research suggests exporting may substantially benefit smaller firms as well. Evidence shows that by providing access to bigger, more competitive markets, exporting induces small firms to learn new skills and techniques that increase their profitability, size and growth.

**The evidence**

IGC researchers conducted the first randomised controlled trial (RCT) on the impact of giving firms the chance to export, in order to map the effects on SME productivity, profitability and growth. The researchers provided a random group of small Egyptian rug manufacturers with the opportunity to export by matching them with foreign buyers. Knowledge and skills are transferred from buyers and intermediaries to domestic firms when they start exporting. International trade thereby generates lasting productivity gains for SMEs. The opportunity to export raised the overall performance of these firms, as measured by monthly profits, by 16–26% (Atkin et al. 2017).

In follow-up work, the researchers show the household consumption of the firm owner's family also rises when exports increase: the number of times a family eats meat per month – a simple measure of wellbeing and living standards in Egypt – rises by 24%.

A crucial finding from this research is that the rug manufacturers learned by exporting. The increase in their profitability came, to a great extent, from developing the ability to produce the higher quality rugs needed to meet the demands of foreign buyers due to channels for buyers to provide feedback. With these more advanced skills, they also, for a given quality level, produced the rugs faster than non-exporters.

**Impact and implications**

This study suggests that policies to boost SME exports can drive increases in small firms' productivity, employment and growth. While researchers in the above study enabled SMEs to export by matching them directly with foreign buyers, this matching exercise is actually very difficult and costly in developing countries. Policies to boost SME trade need to address these high costs and barriers through facilitating connections, increasing access to information about regulations and export opportunities, and introducing measures to ensure quality of goods and services.

Other IGC work has focused on boosting the effectiveness of export promotion agencies in facilitating trade (See idea 12), and how SMEs can learn new skills by participating in global and regional value chains, which allows them to interact with foreign buyers (Daly et al. 2016).



# Idea 11 – More flexible loan contracts could significantly enhance the impact of microfinance on borrower income and productivity.



Small firms make up over 90% of developing countries' private sectors (Kumar 2017), playing a pivotal role in economic development. However, they often struggle to grow. Credit and insurance are essential, but undersupplied, ingredients for growth. While microfinance is frequently touted as an effective policy tool to fight this problem, multiple large evaluations have found no evidence that the classic microfinance product increases borrower income or production (Kaboski and Townsend 2011; Banerjee et al. 2015). New research shows simple changes to the traditional microfinance model could significantly enhance its effectiveness.

**The evidence**

Standard microfinance contracts cater to either improving access to capital or insuring against entrepreneurial risk, but not often both. A recent IGC experiment with BRAC, a global NGO, examined the impact of providing repayment flexibility to clients with a good existing credit history. Clients with flexible loans generated 87% more revenue, had 25% larger profits, and experienced 80% higher sales volatility than clients without flexible loans (Battaglia et al. 2019). Hence, the option to delay up to two monthly repayments at any point during the loan cycle enabled businesses to take more risks and attracted clients who were eager to take on more risk if it meant expansion.

Another IGC study (Field et al. 2013) found that a two-month grace period on repayment resulted in microenterprise investment increasing and the likelihood

Photo: Hemany Mishra and Mint

of starting a new business more than doubling among clients. Profits and household income remained significantly higher nearly three years after receiving the loan. However, grace period clients were three times more likely to default than regular clients in the short run. A companion study (Field et al. 2012) found that switching from weekly to monthly repayment more than doubled business income and increased household income by 84–88%, with no increase in the default rate.

**Impact and implications**

Microfinance attracts huge attention from donors and governments. The space is open, however, for innovative new financial products which address the variety of constraints that small entrepreneurs face. Importantly, different contract structures can have different effects depending on the type of borrower (e.g., level of entrepreneurial skill). Better understanding of how to design and implement such contracts is an area for future innovation and research.

# Idea 12 – Reforming African investment agencies can enhance job creation from foreign direct investment.

African countries need rapid, large-scale job creation for their rising youth population and, at the same time, to boost overall productivity. Foreign direct investment (FDI) can create jobs by strengthening exports, connecting local suppliers to global markets, and contributing to the long-term development of national industrial capabilities. However, the recent wave of FDI in manufacturing has largely passed Africa by. While African countries have established investment promotion agencies to attract foreign companies and facilitate their operation and expansion, many agencies do not perform their roles effectively. Evidence and experience show that encouraging local investment agencies to reform – by shifting their focus from simply granting business licenses towards actively helping foreign companies overcome obstacles that threaten their viability – can significantly enhance the rate of job creation from FDI.

**The evidence**

The IGC, through the leadership of John Sutton, supported the reform of the Ethiopian Investment Commission (EIC). The key recommendation from this engagement was to establish a 'relationship building' model, pioneered by Finland, Ireland, and Singapore, and accepted as best practice for investment agencies worldwide. Sutton worked closely with Commissioner Fitsum Arega to establish such a programme and place it at the centre of the agency's work.

A relationship building programme revolves around three key elements:

1. Allocating a dedicated 'contact person' from the investment agency to each foreign firm,

2. Regular fortnightly or monthly team meetings with all 'contact persons' and the programme director where new 'live issues' are identified and reviewed, and

3. Agreed action points followed up at successive meetings until they are resolved.

The most important result of establishing such a programme is shifting the energy of the investment agency away from 'putting out fires' towards anticipating problems and resolving them before they become critical.

The economic gains from FDI can also be enhanced by the establishment, in collaboration with the relevant ministry, of a Local Content Unit (LCU) to engage in dialogue with MNCs to arrive at an optimal solution for local firm involvement in the industrial supply chain. LCU's are an alternative to local content rules, which are often easily circumvented, and may generate a bias in the supplier base towards activities that contribute little to the development of the host country's industrial capabilities. In comparison, a well-designed LCU that enjoys the full support of the relevant ministry, and the backing of relevant ministers, can achieve the broad-based involvement of local companies that will maximise the long-term benefit to the economy.



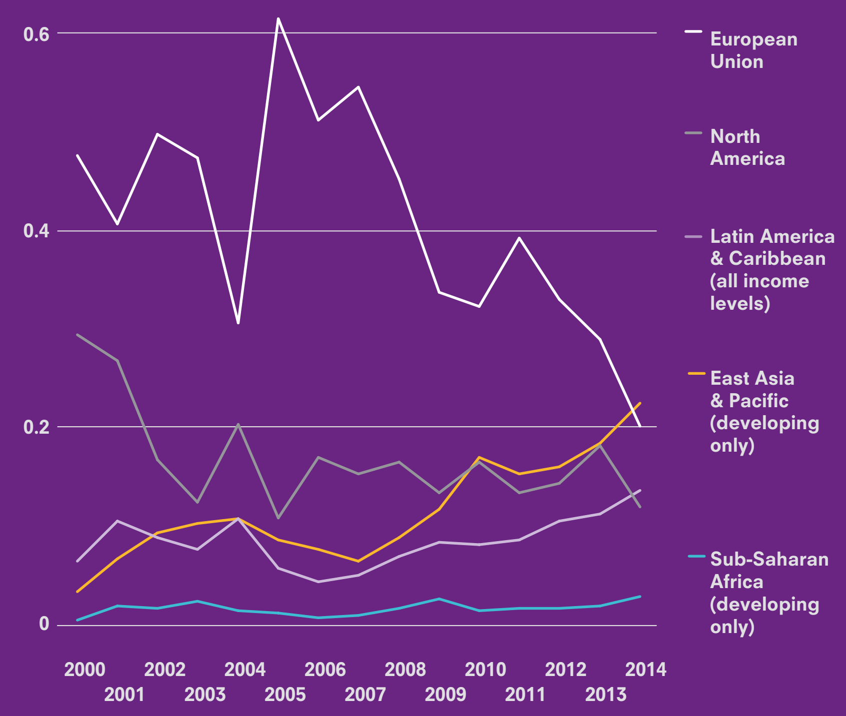




**Impact and implications**

The EIC relationship building programme is now fully operational and covers over 400 companies. It has also been extended to cover firms setting up operations at the industrial park in the city of Hawassa. Through a related cluster of work, the IGC has engaged governments in Mozambique, Rwanda, and Tanzania to support the creation of Local Content Units which have increased the participation of local manufacturing firms in MNC supply chains. The IGC has also advised the East African Community on local content policy.

**Figure 5**
**Share of global FDI inflows by region**



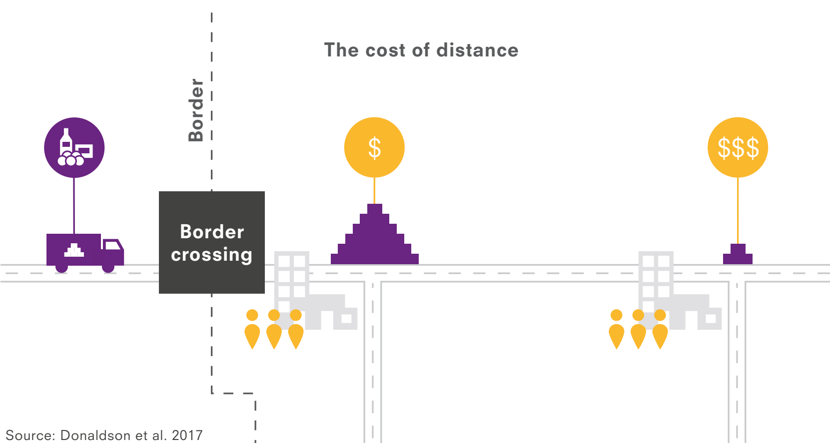



Source: World Development Indicators (2016)

# Idea 13 – Reducing the costs of moving goods within Africa would help countries gain more from international trade and tackle regional inequality.

**Figure 6**

**Due to high transport costs, consumers in remote areas have fewer available goods and pay more for them**




Source: Donaldson et al. 2017

In the last few decades, while most developing countries have been tapping into global value chains and increasing international exports, African trade has, on average, stagnated and in some cases even regressed (Ansu et al. 2016). This is despite the benefits of globalisation, such as reduced tariffs, that have lowered the cost of international trade.

As a result, farmers and firms do not benefit from globalisation as they are not closely linked to global markets. One of the main reasons for this stagnation is the high cost of moving goods within Africa. Evidence shows reducing these intra-national transport costs would help African countries boost economic growth, gain more from global trade and tackle regional inequality.

**The evidence**

In a pioneering IGC study (Atkin and Donaldson 2015), researchers developed a new methodology using price data (i.e., prices of goods that are recorded at the barcode-equivalent level and include information on the goods' origin and destination) to estimate trade costs in Ethiopia and Nigeria, and the US for comparison. They estimate the cost of transporting goods is up to five times higher (per unit distance) in some sub-Saharan African countries than in the US. Moreover, in some areas of Africa, transport costs may constitute a higher trade barrier than import tariffs or other trade restrictions (Amjadi and Yeats 1995).

Atkin and Donaldson found that high transport costs in these African countries





are not solely due to the low availability and quality of roads, but also to factors including inefficient logistics, poor vehicle quality, delays at border controls, and customs regulations. The findings suggest that increased globalisation exacerbates regional inequalities. As the cost of international trading falls, places closer to borders and ports benefit more than those in remote locations. In remote areas, foreign goods end up being too expensive or unavailable, limiting residents' benefit from cheaper global imports.

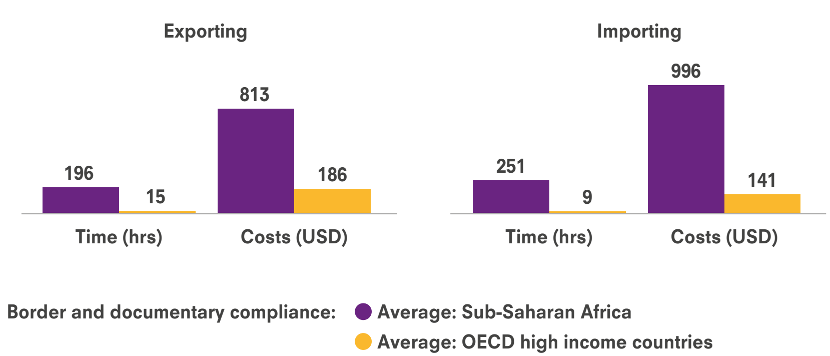
**Impact and implications**

This research shows that policies to reduce the cost of transporting goods within Africa can reduce regional inequality, benefit rural economies, increase trade, and help exporting firms perform better. Policies aimed at reducing the costs of trade should not solely focus on improving the quality or availability of roads. Other factors need to be addressed, such as restricted market competition in logistics, inferior technology of transport vehicles, and under-utilisation of trucks and roads. It is also important to address policies governing infrastructure, such as restrictions on competition, standards and licensing, and border inspections that reduce the efficiency of highways.

A number of these factors have been addressed in complementary IGC studies, particularly in the East African Community, which have demonstrated the positive effect of overland regional trade on less developed border areas in Uganda and Rwanda (Brulhart et al. 2017); and the potential for technology such as GPS monitoring to enhance the productivity of Liberian trucking firms (Rochambeau 2017).

**Figure 7**

**The ease of trading across borders**






Source: World Bank, Doing Business Report 2017

A growing and dynamic private sector is key to creating large numbers of productive jobs and driving sustainable increases in income. In developing countries, helping domestic firms compete globally and small and medium enterprises grow is essential for strengthening the private sector.

This section looks at how improving management practices can help firms perform better, how fixing information and market failures can make agricultural and labour markets more efficient and how addressing the misallocation of resources can increase the productivity of individuals and firms.

**Idea 14**
Better management practices in firms in developing countries can increase their productivity, profits, and size.

**Idea 15**
Fixing failures in agricultural markets is key to enabling a Green Revolution in Africa.

**Idea 16**
Addressing the misallocation of resources – land, labour and capital – would reduce poverty and increase firm productivity.

**Idea 17**
Better information flows between employers and jobseekers could make labour markets much more efficient.

# Idea 14 – Better management practices in firms in developing countries can increase their productivity, profits, and size.

For developing countries to reduce poverty on a large scale, firms must be productive and dynamic enough to generate income and jobs. Evidence shows management practices are an important driver of growth, finding that companies with higher management scores are significantly more productive and profitable, and grow faster (Bloom et al. 2013; Bruhn et al. 2018).

### The evidence

Recent research scoring management practices – using the Management and Organisational Practices Survey (MOPS) – in manufacturing firms has revealed that management is significantly worse in developing countries than in developed countries (Bloom and Van Reenen 2007). The average management score for Indian firms, for example, is 23% lower than the score for US firms.

A seminal IGC experiment (Bloom et al. 2013) involving large Indian textile firms found that the adoption of a set of management practices, introduced to them with the support of a consulting firm, raised productivity by 17% and led these firms to open more production plants. In spite of high consulting costs, the rate of return was 130%. Eight years after the initial study, follow-up research showed the management intervention had a positive, long-term impact on firm performance with average long-run increases of 34% in production and 9% in productivity for firms receiving the intervention as compared to firms that did not. Other evidence shows that simple training programmes on management practices do not always work (McKenzie and Woodruff 2014), however, hiring management consulting services and mentorship (Brooks et al. 2018) can be more effective.

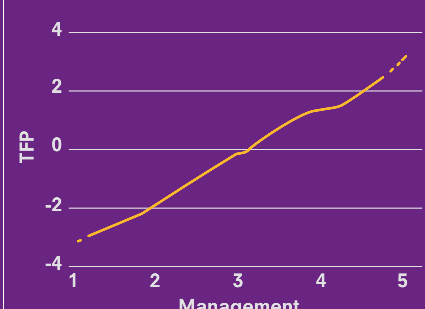
### Impact and implications

The original Indian experiment has inspired studies to measure management in other developing countries including Pakistan and Mozambique. Survey tools have also been adapted to measure management practices in the education and healthcare sectors in developing countries.

While findings on the benefits of improving management practices are promising, the IGC is also looking to understand why firms in developing countries fail to invest in improving management practices, and what firms and governments could do to change this.

**Figure 8**

**Increase in management score is associated with an increase in firms' Total Factor Productivity (TFP)**




Source: Bloom et al. 2017





# Idea 15 – Fixing failures in agricultural markets is key to enabling a Green Revolution in Africa.

A productive agricultural sector provides a crucial "push" factor, enabling the movement of labour into higher value-added sectors and fostering inclusive economic growth. The Green Revolution in the 1960s and 70s brought improved technologies that increased agricultural production in many developing countries but largely bypassed sub-Saharan Africa. While agricultural technologies such as hybrid seeds and fertiliser can make farms significantly more productive, their usage in Africa remains strikingly low. Evidence shows failures in agricultural markets are preventing African farmers from benefitting from these technologies.

### The evidence

An IGC study (Bold et al. 2017) found that in Ugandan markets, fertilisers are missing 30% of nutrients and hybrid maize seeds are estimated to contain less than 50% authentic seeds. Researchers calculate that average returns for small farms would be close to 80% if these products were replaced with authentic technologies. The results suggest that one reason for low adoption of agricultural technologies is that those available in local markets are just not profitable for farmers.

Another IGC study in Uganda (Barriga and Fiala 2018), building on these findings, finds that seed quality deteriorates along the supply chain due to poor storage and transport.

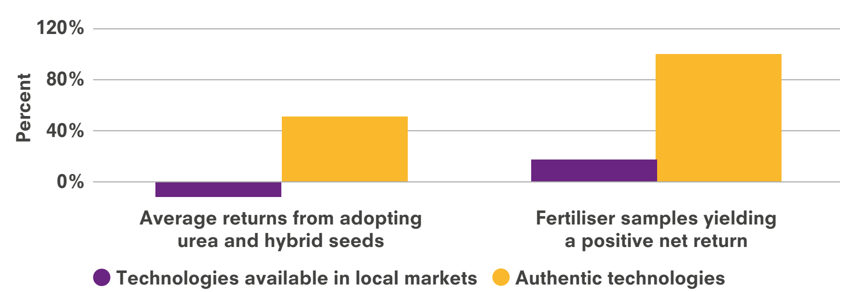
### Impact and implications

In Uganda, the government responded to the IGC's evidence by introducing a mobile e-verification programme to help farmers distinguish fake inputs from real ones, and endorsed plans to put quality seals on inputs to reduce counterfeits supplied to farmers.

As low rates of agricultural technology adoption in Africa are due to many interrelated factors, more research is needed on policies and mechanisms to increase adoption to build on these findings and drive increases agricultural productivity.

**Figure 9**

**Average returns from locally-available vs. authentic agricultural technologies**






Source: Jack et al. 2017

# Idea 16 – Addressing the misallocation of resources – land, labour and capital – would reduce poverty and increase firm productivity.

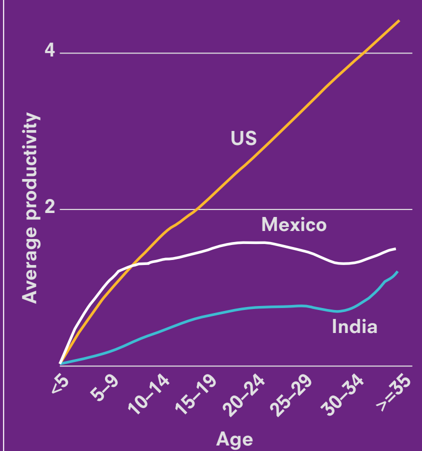
From individual entrepreneurs to large factories, many different economic activities compete for a scarce pool of labour, land, and capital. Evidence suggests these resources are not flowing to the most productive and impactful uses, and that this misallocation is significantly hindering economic development.

**The evidence**
Why do people stay poor? One view is that people are poor because they have unproductive traits. The other is that they lack opportunities. In the latter view people with the same traits or talents can end up poor or rich depending on their initial wealth. This is known as a poverty trap where people cannot make full use of their abilities because they lack the capital to do so.

Balboni et al. (2019), using the asset transfer described in Idea 1, provide evidence that poverty traps in rural Bangladesh exist due to misallocation of talent. Poor people are not unable to take on more productive employment activities, they just lack the needed capital. Resources are not getting into the hands of those who can use them most productively.

Barriers such as access to capital and skills, weak infrastructure, limited information and poor credit stymie competition and prevent resources from flowing to the most productive uses whether this be by individuals or firms. An analysis of firms in China and India found that total manufacturing productivity could increase by up to 50% if capital was spread across firms in the same way as in the United States (Hsieh and Klenow, 2009).

**Figure 10**
**Compared to the US, productivity in India and Mexico grows by less over a manufacturing plant's life cycle**




Source: Hsieh and Klenow 2014

**Impact and implications**
Developing countries are less productive in part because of impediments to the flow of resources. To tackle persistent poverty, we need big push policies that tap into the talents of the poor rather than just propping up their consumption.

Misallocation may also hinder job creation and firm growth in developing countries. While financial and regulatory constraints may mean that budding firms can't access the capital they need, more research is needed to understand policies that can address the wedges created by misallocation.





# Idea 17 – Better information flows between employers and jobseekers could make labour markets much more efficient.

In developing countries, unemployment and underemployment are high and jobs are often poorly paid and unstable, hindering economic welfare and growth. A recent review of evaluations of labour market policies found that many interventions (training, wage subsidies, job search support) are not be particularly effective (McKenzie 2017). Recent studies show that providing information to jobseekers and employees can significantly improve employment and allocation of talent in the economy in a cost-effective manner.

**The evidence**
IGC research by Abebe et al. (2018) examined the impact of job application workshops that provide skill certificates and instructions on how to present skills in resumes, cover letters, and at job interviews. Four years after the workshop, participating jobseekers had significantly higher earnings (20%), job satisfaction, and employment duration than those who did not participate. Encouragingly, these gains were concentrated among those with the least education and experience.

Similarly, IGC research by Alfonsi et al. (2019) found that vocational training programmes that provided certificates worked better than firm provided training in tackling youth unemployment.

Reference letters are another useful and undervalued tool to convey information about skills. In South Africa, Abel et al. (2017) encouraged some applicants to seek a reference letter. They found that including a reference letter with a job application increased employer call-backs by 60%, and doubled them for women.

Further, Abebe et al. (2017b) found that jobseekers overestimate the probability of being offered a job when they make an application. Providing information about the competitiveness of specific vacancies helps jobseekers target their job applications more effectively (Ahn et al., 2018).

**Impact and implications**
IGC research shows that information interventions can generate substantial earnings for workers at a low cost, while also benefitting firms. The findings of Abebe et al. (2018) influenced the design of a large social safety net programme in Ethiopia.

Further evidence is required to evaluate the long-term effects of one-off information interventions as well as what mix of traditional and information policy interventions work best in different contexts.

Photo: Stuart Freedman and Getty

Many households in developing countries lack access to reliable, modern forms of energy. A core idea of this section is how the social norm of treating electricity as a right has unintended consequences for meeting ambitious goals on universal access to reliable electricity.

The use of energy, in most forms, also generates harmful pollution that contributes to climate change. A second idea shows how information and enforcement can work together to reduce these externalities.

## Idea 18

The social norm of considering electricity a right leads to losses, rationing of supply, and unmet demand for electricity.

## Idea 19

Better information on firms' polluting levels helps regulators and the public enforce policies to reduce pollution.

## Idea 20

A better understanding of how off-grid alternatives affect demand for electricity is necessary to achieve universal access.

# Idea 18 – The social norm of considering electricity a right leads to losses, rationing of supply, and unmet demand for electricity.

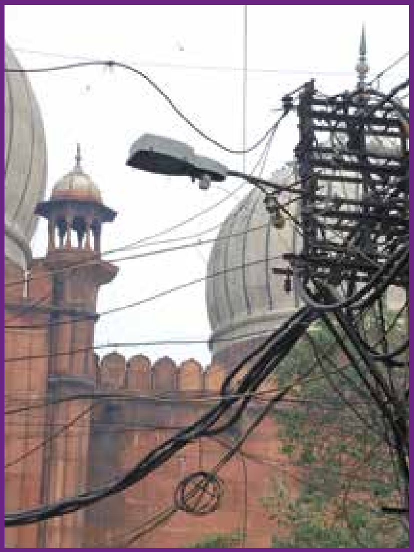


Photo: Güldem Üstün and Flickr

Access to energy is crucial for inclusive growth. Yet, the pressure for cheap, widespread power puts state utilities in a bind: expanding access while subsidising prices below cost creates a ballooning deficit. Only two options remain: cut back on supply or access – even to those who are willing to pay more for it – or seek bailouts. Rationing supply means even less revenue, and a vicious cycle ensues. Recent research on how this cycle of losses can be broken has identified one overarching culprit: the pervasive norm of electricity as a right.

**The evidence**

The norm of electricity as a right implies crimes, such as illegally tapping power lines or ignoring electricity bills, go unpunished. Seminal IGC work in India over the last decade has trialled several interventions to turn the situation around (Burgess et al. 2019). In the first experiment covering 28 million customers, the hours of electricity supplied were linked to bill collection rates through a transparent and heavily publicised scheme. The scheme increased the utility's revenue and neighbourhoods' energy supply simultaneously.

A second experiment in India incentivised electricity bill collectors by giving a share of increased revenues back to collectors as a bonus. In some areas, bill collection revenues shot up by a third following the intervention.

**Impact and implications**

In the study in India, losses remained high due to the challenge of excluding those who do not pay from the electricity grid. In another IGC study in South Africa, pre-paid meters were installed to get around the difficulty of cutting off individuals who steal from the grid. Both demand and losses fell following the take-up of pre-paid meters, although this was not done in a high loss area (Jack et al. 2015).

Demonstrating that more payments for electricity means more access and better quality is the key task facing utilities. Subsidies for the poorest users can serve a social purpose, but they are hard to target, often benefiting those already well off. It remains unclear if this is best done through the power sector or through other means like cash transfers.





# Idea 19 – Better information on firms' polluting levels helps regulators and the public enforce policies to reduce pollution.



The pollution levels in developing countries today are among the highest levels ever recorded. Rapid economic growth has been met with a rapid rise in pollutants, cutting lifespans and stunting labour productivity. Bringing China into compliance with international standards on airborne particulate matter, for example, would alone save an estimated 3.7 billion life years (Ebenstein et al. 2017). While some argue low environmental quality is an inevitable by-product of rapid economic development, recent research shows the environment can be protected by transparent and innovative regulation, without coming at the cost of growth.

**The evidence**

Ambitious environmental policies fail to generate results if they are not enforced. Despite this, we know little about why enforcement fails. Environmental audits of firms are a common enforcement tool, yet IGC evidence from Gujarat, India, demonstrates they can be ineffective unless the link between firm and auditor is severed (Duflo et al. 2013). Firms chose and paid their auditors. With the regulator in the dark, they often colluded to fudge pollution numbers. Introducing truly independent auditors resulted in plants reducing emissions by 28 percent. Furthermore, discretion for regulators to decide which plants to investigate allowed them to draw on local information to target the worst offenders (Duflo et al. 2018).

Transparency on pollution can allow environmental regulation to go further. Rating industries on pollution emission levels acts as a strong public signal to show which firms are adhering to pollution standards. In Maharastra, India, the government released information on 20,000 industrial stack samples over several years under the Maharashtra Star Rating Programme. Residents were informed about industry emissions in their area, allowing citizens to call for action and encouraging competition between industries to reduce emissions. IGC researchers are currently evaluating this programme.

**Impact and implications**

Regulators are now using real-time data on emissions of particulate matter to ensure compliance at all times. Building on IGC research, the authorities in Gujarat have rolled out continuous-monitoring technology and, in July, launched the world's first "cap and trading" programme to curb particulate air pollution. The programme creates strong incentives for firms to find innovative new ways to reduce emissions.

Photo: Santosh Harhare, Hindustan Times, and Getty

# Idea 20 – A better understanding of how off-grid alternatives affect demand for electricity is necessary to achieve universal access.

The electricity landscape in developing countries is rapidly changing. Technological innovation is driving down the costs of off-grid solar energy, while rapid expansions of national grids are allowing even more unelectrified communities to cheaply enter their web. For those that remain in the dark, what is the best way to electrify them? A new body of research is seeking to understand how these technologies compete and in turn influence the demand and willingness to pay for electricity.

Photo: BSIP, Universal Images Group, and Getty







**The evidence**

An IGC study in rural Kenya reveals that households have low demand for grid electricity, often remaining off the grid even with high subsidies (Lee et al. 2019). Whether electricity spreads to them or not hinges on their willingness to pay for it, which in turn depends on the choices households face. A recent IGC experiment in Bihar, India, varied the price and availability of off-grid solar to assess demand for different types of electricity (Burgess et al. 2019). Even in the energy-poor state of Bihar, the market for electricity is surprisingly competitive. Demand for diesel generators, for instance, collapses upon the arrival of the electrical grid and as solar becomes more accessible. Likewise, solar energy brings benefits to areas outside the grid's reach, but its value quickly diminishes as the grid becomes viable.

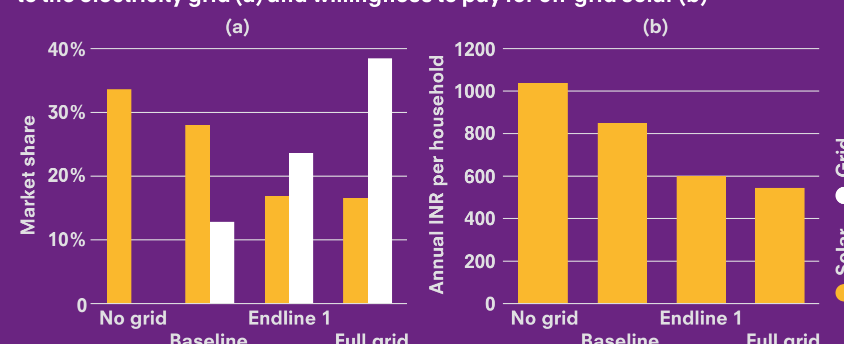
The preference for grid over solar is partly due to heavy grid subsidies. Making prices reflect true costs and, crucially, removing possibilities for theft greatly increased the attractiveness of solar, even when the grid is an alternative.

**Impact and implications**

A stronger grasp of these dynamics is necessary if countries are to meet their goals for universal access to electricity by 2030. Electrification policies must consider both the costs of various technologies and how the demand for them evolves. Considering how plans for grid and off-grid expansion interact with each other is therefore essential. More work is also needed on how production and employment activities respond to the arrival of electricity as this will have a fundamental effect on demand for electricity going forward.

**Figure 11**

**The market share of solar energy depending on extent of connections to the electricity grid (a) and willingness to pay for off-grid solar (b)**




Note: No grid: 0% grid penetration, Baseline survey (2013): 43% of villages with any connection, Endline 1 (2016): 57% of villages with any connection, and Full Grid: 100% grid penetratio
INR: Indian National Rupee

Source: Burgess et al. 2019

Cities are hives of economic activity and interaction. When cities function well, they bring together firms and workers in a way that drives economic growth and offers a route out of poverty. Yet many cities are growing without industrialisation and face challenges such as congestion.

This section looks at the potential benefits of temporary migration to urban areas, means to increase urban connectivity and tools to raise revenue in cities.

## Idea 21
Tools for mass valuation of land and property can help increase municipal tax revenue.

## Idea 22
Rapid public transportation systems are important elements of urban strategies to expand access to good jobs.

## Idea 23
Temporary migration can help rural households cope with seasonal hunger and poverty.

# Idea 21 – Tools for mass valuation of land and property can help increase municipal tax revenue.



Most developing cities lack the finances to make the massive public investments required for them to become hubs of growth. As cities grow, the wealth they create is captured by their rising land values. Annual taxes on land and properties thus represent the largest source of untapped municipal revenue for developing cities. Evidence from developing country cities shows that 'mass valuation' tools – enabling policymakers to value land and property on a large scale at low cost – can help increase tax revenue.

**The evidence**

In Rwanda, IGC research found that a 1% land value tax could generate double the amount of revenues seen under the previous land fees system. Alternatively, a 0.5 –1% tax on 'land plus property' could raise more revenue and would be simpler to implement than a tax that separates land and property.

Central to the study's recommendations was the development of a Computer Aided Mass Appraisal (CAMA) model to make property tax administration more accurate, transparent, and affordable (Murray et al. 2016). CAMA uses satellite data to identify the features of a given land plot, such as size and what it is used for, to accurately value it. Developing this type of model in Rwanda is possible due to the availability of a complete, digitised land and property register.

Tools like CAMA require significant amounts of existing data and resources to develop, which developing cities have typically lacked. Some African cities have seen success using low-cost technologies such as satellite data and Geographic Information Systems (GIS). Hargeisa, Somaliland, developed basic land records using satellite data and surveys to collect data on physical characteristics and occupiers of properties, almost quadrupling the number of properties registered for taxation over an eight-month period. Arusha, Tanzania, linked their GIS with their local tax information system to map and assess all properties for their tax revenue potential (Collier et al. 2018).

**Impact and implications**

The IGC is now generating a prototype CAMA model for Kigali using sales transaction data combined with satellite data, and is working with the World Bank to expand the updated CAMA model to secondary cities and rural areas in Rwanda. The research and policy engagement in Rwanda exemplifies the IGC's collaborative approach to designing research and implementing policy recommendations hand-in-hand with governments.

Key to effective valuation of land and property is matching methods to current or projected capacity in the city. In cities like Kigali, where land registration levels and recorded transactions are high, tools like CAMA are a viable option. By contrast, in cities in Sierra Leone, implementing simpler systems to match capacity has yielded higher revenues.



# Idea 22 – Rapid public transportation systems are important elements of urban strategies to expand access to good jobs.

IGC 10 Little book of growth ideas

Productive cities are engines of growth. Jobs in cities might abound, but they are not always within reach. Urban sprawl which pushes residents to the fringes amplifies the challenge. For those that can afford the commute, hours are spent unproductively sitting in traffic. As more and more people move into cities – an estimated additional 2.5 billion by 2050 – large investments will be made to reduce congestion associated with rapid urban growth. Mass transit can boost the productivity of cities by connecting firms and workers, bringing significant gains to poor, low-skilled workers.

**The evidence**

Recent research has examined the impact of alleviating transportation constraints on individual and firm outcomes. A detailed analysis of the TransMilenio Bus Rapid Transit (BRT) system in Bogotá, Colombia, by an IGC researcher revealed large gains in output (2.7% net of construction and operating costs) and welfare (an average of 3.5%) for the city (Tsivanidis, 2019).

The BRT also increased access to jobs for workers in the outskirts of the city as well as access to workers for corresponding firms in the city centre. Notably, both low and high-skilled workers benefited. This suggests improving public transit is a less precise way to target welfare improvements for the poor than is traditionally assumed. High-skilled workers use public transportation less often but also have lower flexibility in their commutes due to static employment locations.

Photo: Felipe Restrepo Acosta

With a BRT in place, they benefited from cheaper and quicker commutes.

**Impact and implications**

IGC researchers are evaluating the impact of BRT systems in other regions such as East Africa. IGC evidence from Addis Ababa, Ethiopia, reveals transport costs are not the sole barrier preventing workers from finding good jobs; workers also struggle to signal their skills to employers, for example. How improvements in transportation interact with other constraints to job matching is an important area for further research. Likewise, large investments in mass transit also change the geography of cities, which have lasting implications. In Bogotá, residential populations and house prices increased in areas that gained access to jobs. Residents concentrated in the city's outskirts and areas became more specialised, with employment clustering in the city centre (Tsivanidis 2019). These changes have lasting implications for city planning.

# Idea 23 – Temporary migration can help rural households cope with seasonal hunger and poverty.

For poor households in rural areas, incomes can be sharply affected by the agricultural seasons. An estimated 300 million people globally struggle with income and basic subsistence during the pre-harvest or 'lean season'. Local opportunities for job income are sparse. Urban areas, however, are less prone to these swings and have steadier job opportunities available. Evidence shows seasonal rural-urban migration during lean seasons might offer big rewards for individuals and increase aggregate economic welfare.

### The evidence

While seasonal migration might be beneficial for rural households, for those living near subsistence with limited credit and information, migrating even temporarily is fraught with risks and uncertainties. A costly trip to the city might result in no work materialising, sending a migrant home empty handed. Better, then, stay the safe course and remain put.

An experiment by IGC researchers in Bangladesh tested why more households don't migrate by allocating small travel grants – the cost of a round-trip bus fare to nearby urban areas – to households to migrate for work during the lean season (Bryan et al. 2014). The grant increased households' domestic temporary migration rates by 36–58% during the lean season. Non-food expenditure increased by 30–35%, and calorie intake rose by 550–700 per person per day, equivalent to a full meal during a time when meals are regularly skipped.

Three years later, households that received a grant were 8–10 percentage points more likely to continue sending out a temporary migrant, even after the programme stopped. Further analysis confirms that risk, subsistence-level incomes, and self-learning about the returns to migration all feed into the low rates of outward migration seen in these areas.

Similarly, Bryan and Morten (2019) find that reducing migration costs in Indonesia to the US level, a high mobility benchmark, would lead to a 7% increase in productivity. Removing all barriers to internal labour migration would result in a 22% productivity boost.

### Impact and implications

The merits of seasonal migration are clear, yet the factors determining whether a household chooses to migrate or not are still being uncovered. Even accounting for risk and incomes, the profitability of migration during the lean season suggests households should be experimenting with it more than they do. A recent study of the original seasonal migration programme that was scaled up by a global NGO found mixed results, chiefly due to a difficulty in inducing households to migrate (Bryan et al. 2017). A better understanding of how households make migration decisions is a key area for future work, along with whether such migration subsidies are feasible at scale. Further, while there has been preliminary work on the non-economic welfare effects of temporary migration such as on families, networks and social norms, more evidence is required on this front.





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