



The role of Kaizen in economic transformation

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A teal-colored circle containing the text "Key messages" in white.

Key messages

- Kaizen targets firm-level productivity enhancement through the application of multiple efficiency-enhancing tools.
- The implementation of Kaizen began in Japan, spread across to Asia and is now being used across Africa, most prominently in Ethiopia.
- The approach fits within the economic transformation agenda through its firm-level, productivity-enhancing effects.
- Within the policy landscape, Kaizen is directly supported by policies that enhance firms' managerial and innovation practices and indirectly through business environment improvements.
- Although similar programmes exist, Kaizen distinguishes itself through its use of a system which is set, but flexible enough to overcome local challenges.
- If Kaizen is scaled up, complementarities with other donor programmes could be strong, assuming firms that need it the most are not excluded from implementing the approach.

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Abbreviations

ADB	Asian Development Bank
BDS	business development services
BIF	Business Innovation Facility
BER	business environment reform
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CEO	chief executive officer
DANIDA	Danish International Development Agency
DFI	development finance institution
DFID	Department for International Development
EPZ	export processing zone
FDI	foreign direct investment
FI	financial institution
FTZ	free trade zone
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GVC	global value chain
HRM	human resource management
ICR	investment climate reform
IFC	international finance corporation
ILO	International Labour Organization
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
LED	local economic development
M4P	Making Markets Work for the Poor
MENA	Middle East and North Africa
MOFCOM	Ministry of Commerce People's Republic of China
OECD	Organisation for Economic Co-operation and Development
OVOP	One Village One Product
PSD	private sector development
SBR	state–business relations
SDC	Swiss Development Cooperation
SEZ	special economic zone
SIDA	Swedish International Development Agency
TFP	total factor productivity
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development

Executive summary

This report aims to understand where the Japan International Cooperation Agency's (JICA's) Kaizen approach to productivity enhancement fits into the broader donor approaches to productivity. It begins by looking at the three distinct levels of productivity enhancement:

1. improving productivity at the national level by allocating resources between sectors
2. productivity increases through shifts in resources from less to more productive firms
3. increasing productivity within individual firms, where the focus of the Kaizen approach is centred.

Policy support for productivity can also be divided into three different levels: policies that promote structural change, policies that help improve productivity within individual sectors, and policies that target productivity improvements at the firm level. At the structural level these include industrial policy, investment climate reforms and financial sector development. At the sectoral level, competition promotion, export diversification, the promotion of foreign direct investment and global value chains play a role. At the firm level, human resource management and innovation policy all play roles in productivity improvement.

Donor activities either actively seek to implement these policies or help to achieve their objectives through related

programmes. These activities have significant overlaps and can either target multiple aspects and policies or can be tailored to specific issues, for example, industrial policy support which can be wide-ranging or value chain interventions, which typically look at specific sectors of the economy.

A comparison of the donor approaches and policy interventions regarding the three levels of productivity enhancement shows that multiple approaches can target similar intervention levels and can also serve (or be served by) multiple policy approaches.

Kaizen occupies a specific role in the spectrum as it targets individual firm productivity enhancement through the implementation of a standard set of tools such as *Muda* or the 5Ss (modified to suit local conditions) that require limited additional investments and better use of existing resources by firms. This makes it easily adaptable and scalable as well as flexible enough to be used within other forms of donor programmes.

Such positioning and the relative simplicity of the toolkit allows it to create positive synergies with several other donor programmes, including those most like it. To improve its effectiveness several considerations regarding its scale, integration into other donor approaches, firm targeting and exclusions need to be considered.

1. Introduction

The Japan International Cooperation Agency (JICA) provides support for Kaizen to enhance economic development. Kaizen is a Japanese term that means ‘improvement’ and refers to a process of innovation in firms involving the entire workforce. It involves customer orientation, quality control, new product development, just-in-time, automation, cooperative employer–employee relationships and so on. Kaizen is aimed at reducing inefficiencies. Support for Kaizen in Africa is provided in various forms and in different countries (e.g. in Singapore, Thailand, Egypt, Tunisia, Ghana, Ethiopia, Kenya etc.).

There is little knowledge on the role of Kaizen within the more traditional donor support community, which is more familiar with approaches such as investment climate support or infrastructure financing. This report aims to set Kaizen in the context of the literature on productivity change and economic development and the different policy and donor activities that support productivity and economic transformation (see McMillan et al., 2015, for a recent overview of these issues).

This report is structured as follows. Section 2 examines productivity and how it can be increased either by shifting productivity at the national level (between sectors), at the sectoral level (between firms in the same sector) and within firms themselves. This section runs through academic literature discussing productivity enhancement nested within the concept of resource reallocation to enhance productivity outcomes and the evidence behind these

approaches. Doing this is relevant for the Kaizen concept as it becomes immediately clear that Kaizen, as a firm-level intervention, is focused on one element of productivity increases (within firms).

Section 3 explores the typologies of different policies that can be implemented to promote productivity at the three levels explored in Section 2. Rather than outlining specific policy instances, the section highlights the type of policy interventions that can be implemented to stimulate productivity enhancements. Again, this is of relevance for the concept of Kaizen as it has become a policy-driven process throughout its implementation in Africa and requires a significant amount of government participation for its successful implementation.

Section 4 provides an overview of donor interventions aimed at enhancing productivity. The section discusses the main motivations behind the interventions and provides examples of where they have been implemented. The section pays attention to the modalities of the Kaizen approach, highlighting its uptake in Africa (and Asia).

Section 5 provides a comparison of Kaizen with other donor interventions and concludes by providing some observations on the role of Kaizen plays, how it relates to other interventions and its contribution to productivity enhancement. The section concludes the paper by providing an overview of the levels of productivity impacts that Kaizen promotes and its position within the wider donor initiative and policy landscape.

2. Productivity and economic transformation

This section examines three independent approaches to productivity enhancement and how they interact with economic transformation. These include shifting resources (i.e. labour) to sectors with more productive processes, shifting resources to more productive firms and improving productivity within firms.

This section often refers to the term ‘reallocation of resources’. A traditional theoretical description of the term posits that macroeconomic resource allocation can be undertaken through two distinct market systems. The first is the command system while the second is the market system. Direct allocation (or reallocation) of resources (between sectors or between firms) is strongly associated with centrally controlled markets where resource allocation is controlled by a central government. Market allocation of resources hinges on the theory that resources will be channelled towards their most efficient (or profitable) use by market players (i.e. firms).

Reality is more complex than this binary dichotomy as in most countries there is often no single system in play. Although most countries include some principles of market allocation, there are often strong directional pushes to channel resources towards strategic sectors. The modalities of resource allocation differ and are often used in conjunction with one another. Examples include the use of incentives (or disincentives) such as taxes or subsidies to allocate resources towards specific sectors, or the implementation of industrial development policy which favours particular sectors over others.

This section is an attempt to illustrate different ways of enhancing productivity by relating each way to a different level of the economy: the macro level (shifting resources between sectors), the meso level (shifting resources within sectors) and the micro level (shifting resources within individual firms). It provides the conceptual underpinning on which the remaining sections will build when exploring policy and donor interventions used to improve productivity.

2.1. Moving resources across sectors with different productivity

In developing countries, where large gaps in labour productivity are a reality, the key to driving growth and development are the shifts in labour flows from low-productivity to high-productivity activities. Essentially, this

means that one of the key drivers of growth is the capacity to move resources from areas of an economy that are under-productive to areas (or rather, sectors) of an economy that have higher productivity levels (McMillan and Rodrik, 2011).

Productivity gaps exist between economic sectors (such as agriculture and manufacturing) as well as between firms within the same sector. The traditional interpretation has been the dichotomy in productivity between traditional and modern sectors, i.e. low labour productivity in agriculture (Dercon and Gollin, 2014). However more recent literature has shown that productivity gaps also exist within modern sectors like manufacturing (McMillan et al., 2014).

There is evidence that industrialisation is an important driver of growth – most countries that grew rapidly, from the 1950s onwards, were those that showed signs of rapid industrialisation, first in Western Europe and subsequently in East Asia – although a small group of countries like Saudi Arabia could show increased growth thanks to booms in natural resources such as oil (Rodrik, 2013a).

For example, concentrating on the manufacturing sector (as representative of a ‘modern’ sector) may be an important part of the productivity-enhancement process. Data covering 118 countries (Rodrik, 2013a; Rodrik, 2013b) show that within the formal manufacturing sector there is a labour productivity convergence over time. Countries where the productivity levels of manufacturing are low have shown faster productivity growth rates (within the sector), converging at about 2% a year towards the same productivity levels as those seen in higher productivity countries. It is, however, important to note that such convergence is not common across all sectors – and is actually less likely outside the manufacturing sector. At the aggregate national level, this convergence does not scale up to catch-ups in labour productivity due to the limited significance of manufacturing in most developing countries (Rodrik, 2013b).

These productivity gaps, although larger in developing countries than in high-income countries, can also be an important source of growth. The productivity gaps represent inefficiencies in the allocations of resources, which hamper labour productivity, but the reallocation of resources through structural change can help an economy to grow. Where structural change has occurred, high growth rates often result from these changes, but the type of structural change is important, as differences in growth rates in Asia (high growth) and Latin America and Africa (low growth rates) can attest to.

Sectoral and aggregate labour productivity data from 38 countries between 1990 and 2005, covering a range of countries in different income brackets and across all continents (from Malawi to the US), show that there are large productivity gaps between sectors in developing countries.

What is interesting to note is the time-sensitivity of the impact of structural changes i.e. reallocating resources to more productive sectors. The 1990 to 1999 period saw negative productivity changes in Africa due to structural changes (McMillan, 2013; McMillan and Rodrik, 2011); however data for 2000 to 2010 show the reverse situation in Africa. So structural changes have contributed positively to productivity growth while the reverse is true for Latin American and high-income countries (McMillan et al., 2014).

This change has likely come about because of several factors in the period 2000-2010 that made structural changes more conducive to productivity growth in the African context. These factors include:

- the adjustment to structural reforms that countries were still going through during the period
- significant increases in commodity prices (buoying expansion in the services sector)
- greater political stability (i.e. fewer civil wars)
- greater government accountability.

Diversification across sectors, a result of resource reallocation between sectors, is shown to be strongly linked to per capita income. Higher levels of economic diversification tend to be strongly associated with higher levels of per capita income (Imbs and Wacziarg, 2003). Results from Africa (Hammouda et al., 2010) show that export diversification has resulted in increases in total factor productivity (TFP). As countries grow, their level of diversification increases as they expand into more sectors,

although at the highest levels of income there are also hints that countries begin to re-specialise (Rodrik, 2013a).

These results are in partial contrast to the idea that countries should specialise and engage in trade through the production of goods in which they have a comparative advantage (Rodrik, 2013a). However, it is also important to note that export diversification also plays a role in promoting productivity. Countries where primary resources make up a large proportion of exports – due to revealed comparative advantages in primary products – have lower productivity levels than countries that have higher shares of value-added products in their export basket (McMillan et al., 2014).

What this essentially means is that there is some tension between the concept of specialisation and diversification as a route to productivity enhancement and therefore to economic growth. This tension calls into play the debate between Justin Lin and Ha-Joon Chang (2009) about comparative versus competitive advantage – in other words, do countries make their own success by diversifying into new sectors or should they focus on what they are already good at?

The theory highlighted in this section does not swing the argument towards one route, but instead highlights the fact that common to both approaches is the issue of productivity enhancement through the reallocation of resources towards where they provide the best gains.

2.2. Moving resources to higher productivity firms

The second method of raising productivity is to ‘reallocate’ resources to more productive firms. Productivity differences can arise between firms within sectors. These differences can occur for a range of reasons, such as

Figure 1. Composition of productivity growth sources by country group



Source: McMillan (2013)

different uses of labour (labour and employment practices as well as different labour skill mixes), different capital intensity of production or even different positions within a value chain (either domestic or international).

As an example, Figure 2 shows TFP dispersion across multiple sectors in Kenya (2013), Ethiopia (2011), Tanzania (2013) and Uganda (2013) – countries chosen to represent a simplified view of Africa in the context of this paper. The data come from the most recent World Bank Enterprise Surveys conducted in each country, hence a few caveats apply in terms of data representation. The most important of these is the fact that the surveys do not include a large enough number of firms in their datasets to generalise results at the national (sectoral) level.

Given this caveat, it does provide an interesting visual representation of how TFP is dispersed within sectors such as the leather industry in Kenya or the textile industry in Ethiopia. The representation also shows that in some sectors the degree of dispersion is lower, for instance, garments (both in Kenya and Uganda) or retail (Uganda and Ethiopia).

Other examples of dispersion in productivity include firms in the Cambodian manufacturing sector (USAID, 2005), TFP dispersion in Chinese and Indian

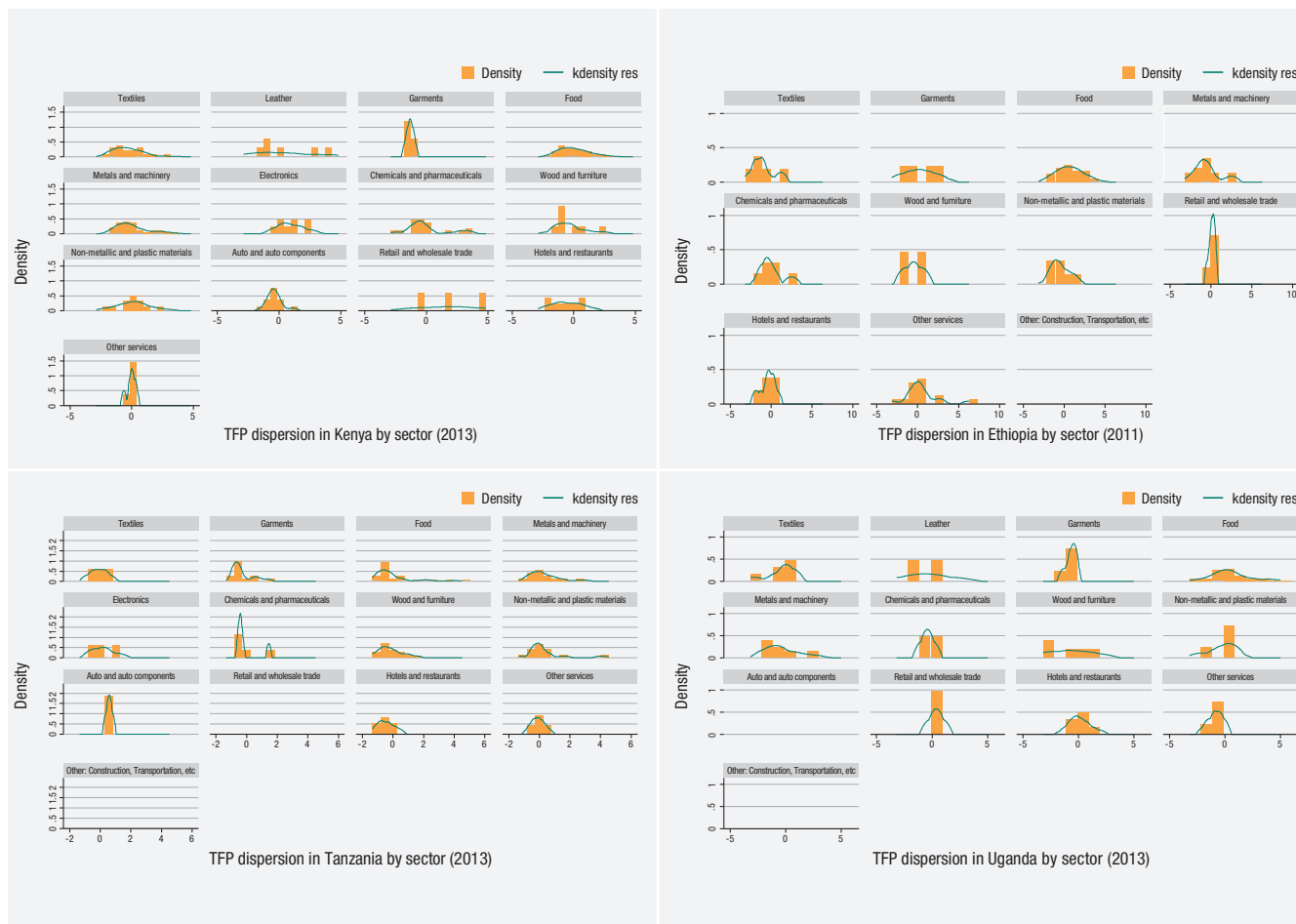
manufacturing firms (Hsieh and Klenow, 2009) and productivity (and price) dispersion in American companies (Foster et al., 2005).

Firm entry and exit into the market can improve productivity, i.e. as more productive firms enter a sector, less productive firms exit. Evidence from Sweden suggests that new firms have higher productivity levels (Andersson, 2007), whereas in Taiwan new firms have lower productivity levels than incumbents but those that ‘survive’ tend to rapidly catch up to productivity levels in incumbent firms, while exiting firms tend to be less productive (Aw et al., 2001).

Evidence from developed (i.e. high-income) markets shows that productivity enhancements occur through the reallocation of resources from less efficient to more efficient firms, an effect that becomes stronger over the medium- to long-term horizon, although the impact does vary between countries. Of interest is also the fact that firm net entry into a market also has a positive contribution to productivity (Bartelsman et al., 2013).

At a theoretical level, research from Hsieh and Klenow (2009) shows that the reallocation of resources between firms can raise productivity. The research measured

Figure 2. TFP dispersion in Kenya, Ethiopia, Tanzania and Uganda



Source: SET programme data (<http://set.odi.org/data-portal/>). Elaborations based on World Bank Enterprise Surveys, see <https://set.odi.org/wp-content/uploads/2015/09/Sources-and-Methods-of-Data-on-Economic-Transformation.pdf> for methodology

dispersals in the marginal product of capital and labour in China and India and uses the US as a ‘TFP efficiency’ (i.e. productivity) benchmark. Results show that there could be productivity efficiency gains if resources in the Chinese and Indian manufacturing sectors were to be re-allocated to more efficient firms. Moving towards US levels of efficiency, there were estimated gains of between 30% and 50% for Chinese firms and of between 40% and 60% for Indian firms. A caveat on this research is the fact that the data sources use different time periods (1998 to 2005 for China, 1987 to 1994 for India and spot data for the US at five-year intervals between 1977 and 1997).

Other inter-firm factors, beyond firm entry and exit, will also have an impact on productivity. Firm size may play a role in productivity outcomes. Core models of firm size distribution suggest that larger firms are more productive and that the reallocation of resources to these firms could improve productivity. Evidence from Canada points to a positive relationship between firm size, labour productivity and TFP (Leung et al., 2008) whereas the Organisation for Economic Co-operation and Development (OECD) data (2013) show a potentially positive relationship between worker output (measured as value in \$ '000) and firm size as measured by the number of its employees (see Figure 3).

However, there is also evidence to show that even though larger firms tend to be more productive, there is also large variation in the strength of the size–productivity relationship, over time, across countries and between sectors (Bartelsman et al., 2013). For instance, in Spain the strength in the relationship between firm size and productivity was stronger in 1994 than it was in 1998,

when other firm characteristics were found to be greater determinants of TFP (Castany et al., 2005).

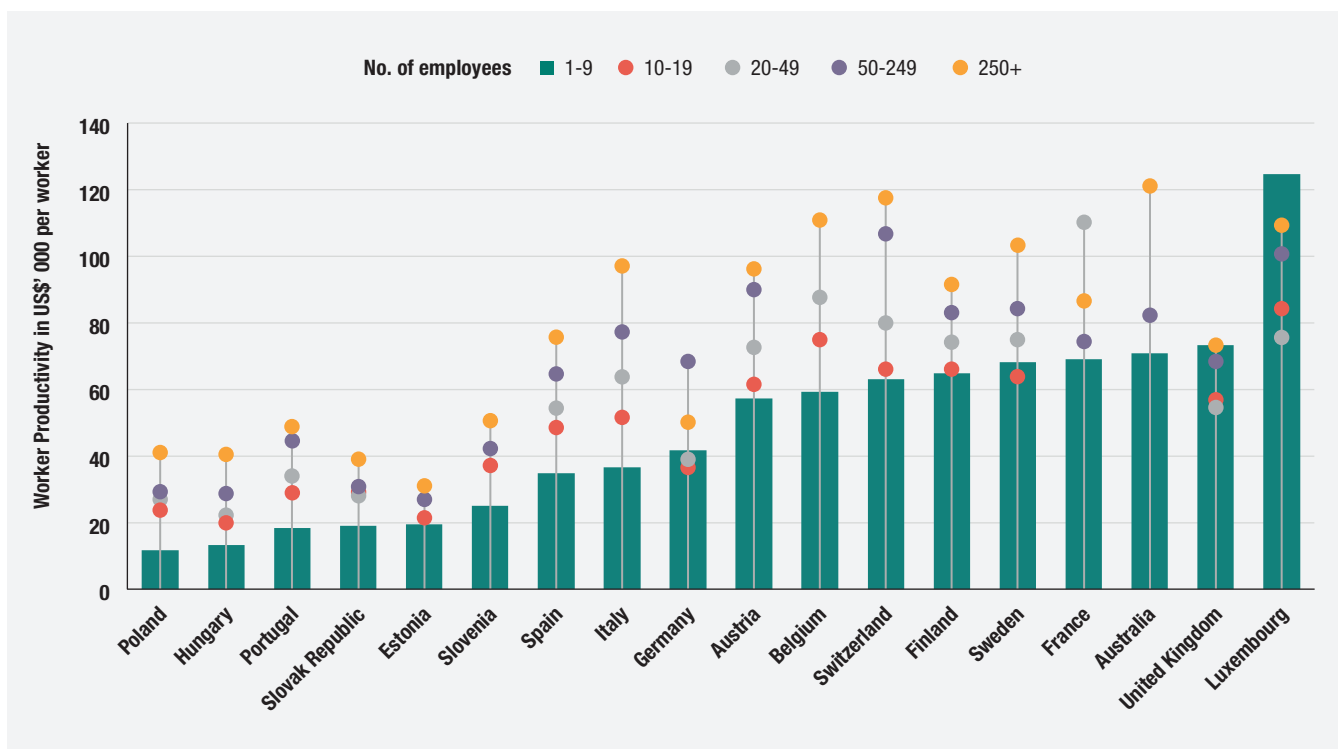
Technology differences between firms will have an impact on the level of productivity as productivity tends to be greater where firms are using more advanced production capital. However, the uptake of more advanced technology is strongly linked to the skill level of labour within a firm – firms with higher skill levels tend to use higher levels of technology – but the relationship (according to Doms et al., 1997) is one where labour skill levels drive technological adoption rather than the other way round.

If we take into account the fact that technological improvements in firms tend to be linked with decreased use of inputs rather than greater output levels (Basu et al., 2006), we may posit that labour skill levels will have a greater indirect productivity impact than the uptake of improved technology alone, although this does not discount the contribution of upgraded capital.

Further evidence suggests that sectoral composition regarding firm size matters since there do not seem to be any efficiency costs associated with small firms (which have more than one worker). It also shows that smaller firms in developing countries tend not to operate in the same sectors as larger incumbent firms, where they would incur cost disadvantages (Tybout, 2000). What this essentially means is that firm size, as a factor of productivity, may also be dependent on the sector in which an enterprise operates.

Trade participation also plays a role in the reallocation of resources between firms through a quasi self-selection

Figure 3. Firm size and productivity in selected OECD countries



Source: OECD (2013)

process. When a sector is exposed to international trade, the more productive firms within the sector will enter the export market. As an industry is further exposed to international trade, resource allocation from less productive to more productive firms strengthens (Melitz, 2003). Integration between firms and global value chains also shows increased productivity outcomes – estimates show that a 10% increase in the export exposure ratio can lead to a 0.1% increase in labour productivity in emerging markets (Kowalski and Buge, 2013).

There may also be an impact on import-competing firms whereby domestic firms that compete with imported goods can see a reduction in production where foreign competition intensifies (Tybout, 2001).

Ownership of firms (i.e. foreign or domestically owned) could play a role in productivity, since performance gaps between foreign-owned and domestically owned firms can be large. However, evidence suggests that nationality of ownership is not the determining factor, rather the characteristics of the firm – that is, whether it is an international firm, the industry it operates in and its size – are greater determinants of productivity. The evidence suggests that attracting foreign direct investment (FDI) may not, by itself, improve productivity levels (Bellak, 2004).

Changes in firm ownership – through company mergers – also have a positive effect on productivity. Research shows that where firms have merged (effectively a form of resource reallocation from one firm to another), especially through buyouts and resulting in a change of management, there are productivity-enhancing effects through a reduction in the managerial overhead and transmission of skills and more efficient production systems between merging firms (Bartlesman and Doms, 2000). Similar results have been found in the US (Giandrea, 2006), where firm mergers have had a positive effect on TFP.

2.3. Improving firm productivity

As discussed above, differences in productivity levels can (and often do) vary between firms, but they can also vary within a firm – plant-level panel data from Mexico (from 2003 to 2010) suggest that different manufacturing plants within firms do not present homogenous levels of productivity (Giri and Teshima, 2013).

While technology levels between firms can impact productivity, innovation and changes in the technology level within firms will also increase productivity. Data from firms in 13 OECD countries shows that research and development (R&D), as well as human capital, is strongly positively correlated with increased productivity and is especially important in the productivity catch-up process (Griffith et al., 2000). Similar results show that there is TFP growth in industries where there is development at the technological frontier (Dabla-Norris et al., 2015). Evidence on productivity differences between US and UK

firms suggests that lower productivity levels in the UK are mainly due to lower levels of capital intensity, but are also attributable to lower levels of technological innovation in the UK (Nickell and Van Reenen, 2001).

Shifting the focus of markets can improve firm productivity. Some evidence from India points to productivity gains when firms decide to start producing for export markets, although the effects occur at the beginning of the process and are not sustained through learning-by-exporting¹ (Mukim, 2011). Evidence from Denmark also indicates a strong positive correlation between exporting and productivity, with greater productivity gains for firms that both exported and imported (as opposed to only one of the two activities) and finds no links between productivity growth and learning-by-exporting (Smeets and Warzynski, 2011).

Similar evidence, also from India, supports stronger productivity in firms that decide to export, but does show positive ongoing productivity-enhancing effects of learning-by-exporting for firms that continue their participation within the export market (Thomas and Narayanan, 2012). Evidence from Slovenia (De Loecker, 2012) points to positive productivity impacts, whereas in Ethiopia (Siba and Gebreyesus, 2014) there is evidence to support both the idea that more productive firms will enter export markets and that firms entering the export market will increase their productivity through learning-by-exporting. The studies therefore show that there is a productivity-enhancing impact for firms that decide to orientate production towards export markets, although it is unclear if the act of exporting is a cause or effect of higher productivity.

Export and import market locations could also play a role in productivity enhancement. Japanese firms that export to the EU and North America show greater productivity gains than firms that export to Asia (Ito, 2011) while Slovenian firms that exported to higher-income regions showed greater productivity gains than those exporting to lower-income regions (De Loecker, 2007).

Firm-level product differentiation (i.e. producing different types of products) may have an impact on productivity. Some evidence points to the fact that manufacturing firms that have greater product differentiation show lower levels of productivity in the US (Gollop, 1997) and in Germany (Sollner, 2010). Such a drop could be a result of increased resilience to shocks of firms, which leads to greater collusive behaviour between firms and reduces competitive pressure (Sollner, 2010). However, contrasting evidence for German manufacturing firms (Gorzig et al., 2008) and Taiwanese electronics firms (Jang et al., 2005) shows that firm product diversification does increase productivity.

A number of studies (Baily et al., 1992; Bartlesman and Doms, 2000; Giri and Teshima, 2013) make reference to productivity changes in individual production plants

1 This refers to the concept that firms will improve their productivity due to greater competition, exposure to competing products and new sources of information, skills and learning.

that are a part of a greater firm conglomerate. They also suggest that where firms have multiple production plants, there can be positive productivity-enhancing spillover effects – so overall increases in productivity at the firm level will result in productivity increases at the plant level due to the efficient transmission of effective production and managerial systems and the reduction in total operational costs (due to economies of scale).

Within firms, plant size also matters, as bigger plants tend to be more productive. In addition, the reallocation of resources from less to more productive plants can have a productivity-enhancing effect, with results from Giri and Teshima (2013) suggesting that such a shift can lead to an 8% increase in aggregate labour productivity.

What such a result suggests is that firm productivity can potentially be increased where firms have a greater number of production assets (i.e. production plants) that

can transmit intra-plant productivity enhancement systems between one another. This also suggests that where firms only have an individual production plant, its productivity can increase if it becomes part of a greater conglomeration of plants where productivity enhancement measures can freely flow between individual production plants. There is potential to further examine if the nature of the ‘merger’ (i.e. full mergers vis-à-vis cooperative-style systems) has an impact on productivity level changes.

Tangentially related is the fact that where firms are in multiple areas, there is greater managerial decentralisation towards countries where there is higher corporate trust, which increases aggregate firm productivity (Bloom et al., 2011). Essentially, increased trust between ‘offices’ or ‘plants’ within a firm helps to increase productivity by facilitating the reallocation of resources and reduces managerial burdens at the centralised (i.e. headquarter) level.

3. Policy support for economic transformation

3.1. What policies are used to improve productivity?

We now move on to understanding and discussing the literature looking at policies that can improve productivity and economic transformation. The section will look at three levels of policy intervention:

1. policies that seek to promote structural change, i.e. improve productivity at the national level
2. policies that help to improve productivity within sectors
3. policies that help to improve productivity at the firm level.

These three policy levels broadly relate to the three productivity-changing modalities highlighted in Section 1:

- where national-level policies aim to enhance productivity across the board as well as improve operations for firms in strategic sectors (i.e. those where there are comparative or competitive advantages) by linking policies (e.g. for agroprocessing) to those in other sectors (e.g. agriculture)
- where sectoral-level policies seek to improve operations of all firms within a given sector
- where firm-level policies seek to enhance productivity by targeting factors (e.g. skills and labour upgrading) that can affect most enterprises, but at a granular factorial level.

Table 1 provides a breakdown of the types of public policies that can be used to promote economic transformation. This breakdown splits public policy interventions into those that support structural change (such as national-level reforms) and those that support productivity enhancement within sectors. Both are then divided into whether interventions are non-selective (i.e. can be widely applied) or are selective (i.e. target specific aspects of productivity enhancement).

The policies included in the typology matrix provide a range of different options that governments can implement, depending on their productivity-enhancing needs. However, it is important to understand that these policies do not operate in silos – each policy is generally co-dependent on the implementation of a suite of other policies to function effectively.

The remainder of Section 3 will broadly highlight the range of policies that fall under this typology, their theoretical underpinnings and how these policies can enhance growth.

3.2. Policies to promote structural change

The policies under this typology look to improve productivity at the national level, where their implementation will generally have positive productivity

Table 1. Typologies of policies to promote economic transformation

Action type	Non-selective interventions	Selective interventions
Public actions to support structural change	Investment climate reforms	Export push policies
	Financial sector development	Exchange rate protection
	Strengthening state–business relations	Selective industrial policies
Public actions to support within-sector productivity growth	Building fundamentals – infrastructure, skills and institutional capabilities	Spatial industrial policies
		National development banks
	Investments in basic production knowledge	Management training
		Attracting foreign direct investment
	<ul style="list-style-type: none"> • managerial good practices as public goods • agricultural innovations 	Export diversification
		Promoting competition
		Increasing agricultural productivity

Source: McMillan et al. (2015)

effects by improving the effectiveness of resource allocation and removing constraints, or facilitating operations, for firms.

This section will discuss: (1) investment climate reform – i.e. reforms of a country’s investment climate that can have positive effects on the promotion of structural transformation within developing countries; (2) financial sector development; (3) state–business relations; and (4) industrial policies.

3.2.1. Investment climate reform

Investment climate reform (ICR), also described as business environment reform (BER), deals with changes in firms’ operational environments, fosters competition and allows them to grow and create jobs. Reforms include a range of operations including changes to the taxation, contracting, property and trading systems as well as any associated and pertinent legal and regulatory frameworks (Manuel, 2015b).

Investment climate policy reform ties into the theory that a sound investment climate promotes Schumpeterian ‘creative destruction’ (World Bank, 2004) – that is, it encourages firms to experiment and innovate, but also punishes failure. This ties into the productivity enhancement processes outlined above. At the firm level, it encourages innovation, productivity and the adoption of more efficient business practices. At the sectoral level, it promotes resource allocation to more productive firms (through firm entry and exit) while, at the national level, it facilitates competition and international linkages, potentially reducing productivity gaps and facilitating economic diversification.

There are no individual measures of investment climate, but evidence points to the fact that individual components of the investment climate do have an impact on productivity. Bastos and Nasir (2004) show that

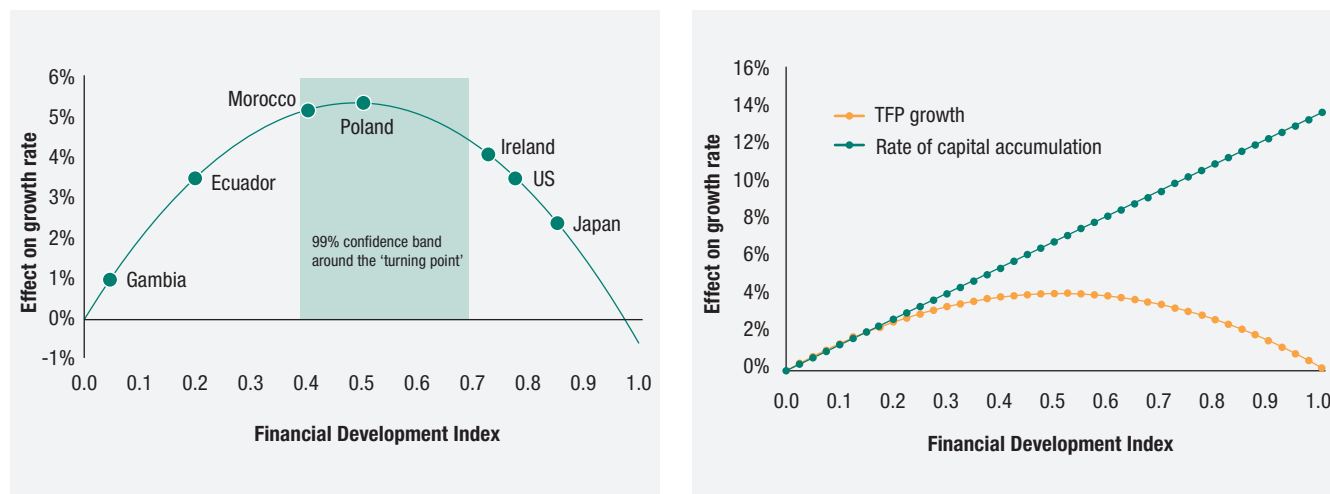
competitive pressure plays an important role in enhancing firm productivity for countries in Eastern Europe and Central Asia. Escribano and Guasch (2005) show a positive link between an effective investment climate and productivity in Guatemala, Honduras and Nicaragua. Kinda et al. (2011) show that the investment climate is an important component of firm productivity in Middle East and North African (MENA) countries. Cross-country data comparing the size of the small and medium-sized enterprise (SME) sectors (i.e. the number of SMEs in an economy) show that more streamlined taxation and labour regulations lead to a larger number of SMEs within an economy (Rocha, 2013).

There is, however, limited evidence that there are causal links between improvements in the investment climate and growth in developing countries. While cross-country evidence points to a strong correlation between ICR and growth, there is no established causality between the two, hence it is difficult to pinpoint whether growth leads to better investment climates or vice versa, or what the impact channels are in either direction (Manuel, 2015a; Kirkpatrick, 2014).

3.2.2. Financial sector development

Financial sector development is a fundamental driver of productivity enhancement. Figure 4 highlights how financial deepening impacts growth at different stages (assessed through the Financial Development Index²), and how financial deepening is associated with increases in TFP. In both cases, deepening has greater beneficial effects initially, with the index increasing from 0.0 to approximately 0.6, after which the associated benefits of financial deepening are still apparent, but its marginal contribution declines (Sahay et al., 2015).

Figure 4. Financial deepening – impacts on growth and TFP



Source: Sahay et al. (2015)

2 As measured in the World Bank’s Global Financial Development Report.

Evidence from China (Chen, 2010) shows that increased access to finance increased firm productivity levels. Similarly data from the US showed that increased deregulation in the banking sector – aimed at increasing firm access to finance – led to increased firm productivity levels (Krishnan et al., 2012) whereas results from European firms show a positive relationship between the use of external financing and TFP (Levine and Warusawitharana, 2014). These results suggest that for developing countries with limited financial systems, policies that target financial deepening could have positive productivity benefits.

3.2.3. State–business relations

Policies that target state–business relations (SBRs) aim to ensure effective (and efficient) interactions between the state and the private sector. Policies that promote effective SBRs can include the promotion of business associations, institutional frameworks that govern state–business dialogue and interactions or simply the processes that allow information to be effectively exchanged between private and public actors.

In Zambia (Qureshi and te Velde, 2007), engagement in effective SBRs (as measured through membership in business organisations such as chambers of commerce or sectoral organisations) would increase firm performance by between 37% and 41%. The increased performance is posited to stem from decreased informational asymmetries between firms and the government through the lobbying efforts of business associations. In India, firm-level evidence from 15 states shows that the productivity of manufacturing firms increases as SBRs improve (Kathuria et al., 2010).

Evidence from a panel data analysis of Ghanaian firms points to the fact that there is a positive correlation between effective SBRs and TFP (Ackah et al., 2010), with improved levels of social networking (an important aspect of SBRs) between entrepreneurs and the government resulting in more effective resource allocation and improved firm productivity. More broadly, effective SBRs have a positive impact on growth – macroeconomic evidence from India (Cali, 2010), Mauritius (Rojid et al., 2010) and Africa (te Velde, 2006; Sen and te Velde, 2009) all points to positive relations between effective SBRs and growth.

3.2.4. Industrial policy

Industrial policy, shaped by SBRs, is itself an important component of productivity-enhancing policy processes, including competition and trade enhancement, taxation, labour regulations, sector prioritisation and so on. Industrial policy often comes into play alongside, or as an integrated part of, national development strategies (such as the five-year national development plans that are common to a number of both developing and developed countries). It can form the backbone of a longer-term productivity

enhancement drive aimed at enhancing economic transformation and growth.

Examples of where industrial policy has had an impact on productivity are difficult to aggregate due to the heterogeneous nature of such policies. For example, the UK's Regional Selective Assistance policy³ had a positive impact on employment and investment, but no impact on firm-level productivity and potentially a negative impact on aggregate productivity as resource reallocation, from less to more productive firms, may have been hampered (Crisuolo et al., 2007). OECD research shows that taxation policy also has differing effects on productivity, with corporate tax negatively affecting productivity and tax incentives on R&D positively affecting productivity (Vartia, 2008).

Indian trade liberalisation reforms (in two time periods 1979-1980 and 2003-2004) have had negative effects on iron and steel manufacturing firm productivity levels (Ray and Pal, 2010). Different effects of a similar industrial policy can be seen within the same country. For example, in Japan the removal of import quotas in the 1960s led to a (time-delayed) increase in firm productivity (Kiyota and Okazaki, 2013). However, contrary evidence, also based on trade liberalisation in Japan but for the 1973–1998 period, shows declines in TFP in manufacturing firms (Hwang and Wang, 2004).

The point is not whether industrial policy has a positive or negative impact on productivity, but rather that there is an effect. The effect will change depending on various factors (the type of industry, the policy typology, the global and national economic circumstances and so on) hence productivity impacts of industrial policy can neither be assumed nor discounted, but there is a need to consider the specifics of the sector, or economy, in question.

3.3. Policies to improve productivity within sectors

3.3.1. Competition promotion

Policies that promote competition can have a potentially positive impact on firm productivity. Increased competition within markets improves firm management practices (which is itself productivity enhancing), and stimulates and encourages the uptake of new technologies for innovation and enhanced productive capacity (Syverson, 2011).

Increased competition could also potentially reduce risk-averseness in firms – companies that are faced with exit from the market (perhaps from bankruptcy due to enhanced competition) can become less risk-averse and invest in 'riskier' technologies as a method to potentially enhance revenues and avoid exit (Rose-Ackman, 1991).

In terms of productivity enhancement, the OECD (2014) provides a simple framework highlighting how competition policy positively affects competition (and growth). The

3 Aimed at supporting businesses in certain disadvantaged regions in the country.

framework posits that the main links between increased competition and higher productivity are its impacts on firm entry and exit (reallocating resources to more efficient firms), improved managerial practices and the promotion of innovation, all of which can enhance productivity within firms.

This means that competition policy has an impact on three levels. If applied at the international level (e.g. when countries become part of a free trade agreement or a regional trade agreement), enhanced international competition can spur resource allocation towards more efficient/competitive sectors. When applied at the national level, competition policy promotes the survival of more competitive firms within sectors. At the firm level, it spurs improved productivity for firms that want to enhance their competitiveness.

There is evidence from the UK (Nickell, 1996), OECD countries (Nicoletti and Scarpetta, 2003), the EU (Nicodeme and Sauner-Leroy, 2004) and South Africa (Aghion et al., 2008) that competition-promoting reforms have a productivity enhancement effect. Positive, long-run productivity impacts of strong competition policy have also been established as well as gains in productivity attributable to changes in competition policy (Ahn, 2002).

There are also positive links between competition policy and innovation (Blundell et al., 1998) leading innovator firms to improve their productivity, but potentially hindering the productivity of laggard firms (Aghion et al., 2005; Hashmi, 2011). Improved national patenting processes, which could be interpreted as anti-competitive, also reinforce productivity gains (Aghion et al., 2013).

Competition policy, when appropriately designed, can also promote inclusive and sustainable growth within developing countries by targeting sectors which would most benefit people and the economy in general, being based on free and fair competition and being effectively enforced (UNCTAD, 2015).

3.3.2. Export diversification

There is a positive association between export diversification, quality upgrading of products and faster resource reallocation to more productive sectors. This is especially significant when diversifying away from agriculture and into other sectors, given the significant productivity gaps between the agricultural sector and other sectors in developing countries (IMF, 2014).

There is therefore scope for policies that promote export diversification. There is no unified policy that can spur diversification, rather it is dependent on several different factors. These include (IMF, 2014):

- higher levels of education levels, stronger institutional quality and protection of property rights – these factors are especially important for developing countries in the drive for diversification and should be targeted by specific improvement-orientated policies
- access to well-developed (deeper) financial systems, providing greater levels of credit to firms

- higher levels of integration in the global economy and greater proximity to markets – where higher export levels (as well as greater south-south trade) are associated with greater diversification levels
- reforms that are correlated with diversification such as trade liberalisation and trade policy reforms, as well as agricultural sector reforms. Access to a greater variety of intermediate goods (through imports) has allowed developing countries to diversify production (and exports).

3.3.3. Foreign direct investment and global value chain promotion

Policy practices that encourage FDI inflows as well as those that promote entrance into global value chains (GVCs) could have an impact on productivity. In terms of FDI promotion policies, Harding and Javorcik (2007) show that such policies work. In other words, sectors targeted for investment promotion in developing countries show a doubling in FDI levels, so some evidence exists that these policies do work. With regards to the impact of FDI promotion, studies looking at productivity spillovers from FDI show that where there have been increases in foreign investment, the impact has varied.

Studies show that there have been positive impacts on firm-level productivity. Such was the case for Lithuanian manufacturing firms (Javorcik, 2004), manufacturing firms in the UK (Haskel et al., 2002), those in the US (Keller and Yeaple, 2008) as well as in the Czech Republic and Latvia (Javorcik, 2008). Broader evidence from 25,000 manufacturing firms, between 2006 and 2010, in 78 developing countries shows that there are FDI spillovers on domestic firm productivity (Farole and Winkler, 2014).

Other studies provide mixed evidence. For manufacturing firms in China (Hale and Long, 2007), there either do not seem to be any significant links between FDI and productivity or the positive spillovers only occur in relationships between foreign suppliers and domestic firms rather than between domestic firms and foreign customers (Liang, 2017). A review of FDI and productivity changes in developing countries found that there are negative intra-industry but positive inter-industry spillover effects (Gerschewski, 2013).

3.4. Policies to improve productivity within firms

3.4.1. Management practices

Management practices can have an impact on firm productivity as well as on other important factors such as firm survival rates and profitability (Bloom and Van Reenen, 2007). Data from medium-sized firms in the US and within the EU show that strong management practices have significant positive associations with firm-level productivity, market value, profitability and firm survival rates.

There is some suggestion that modern human resource management (HRM) can improve labour productivity at the firm level. HRM practices include the introduction of incentive pay structures (both at the individual and the group level) as well as non-pay related processes such as appraisal and promotion processes, labour matching (more flexible hiring/firing practices) and so on. Although data on the outcome of these practices are scarce and not robust within the time-series dimension, initial studies suggest that there is a robust cross-sectional relationship between some types of HRM and labour productivity (Bloom and Van Reenen, 2010).

Evidence from a field experiment carried out in India, where free consulting on management practices was provided to random textile firms, showed that the adoption of better managerial practices increased firm productivity by 17% by improving the quality of products, production efficiency and reducing inventory requirements (Bloom et al., 2013). Data from multiple developing countries (McKenzie and Woodruff, 2015) show that improvements in business practices have strong effects on sales, profits, TFP and labour productivity and help predict better firm survival rates and faster sales growth.

Wage data in several high-income countries in Europe and the US (Lazear and Shaw, 2007) do not provide highly conclusive evidence, but suggest that where firms have higher levels of wage compression (i.e. a smaller difference between highest and lowest earners) there are no negative effects on productivity compared to firms which allow greater differences in wages.

A further aspect of HRM practices is that they may lead to greater wage inequality. Lemieux et al. (2007) argue that in the US, performance-related pay accounted for 24% of the growth in worker pay variance between the 1970s and the 1990s as well as accounting for most of the top-end (80th percentile) wage dispersion. Cunat and Guadalupe (2009) link pay incentive practices to increases in foreign firm competition – companies that have greater exposure to foreign competition have greater incentives to implement incentive pay structures, causing greater wage inequality within firms and especially between chief executive officers (CEOs) and other workers.

3.4.2. Innovation policy

Policies that promote innovation will have an impact on firm productivity levels. There is evidence that publicly financed R&D incentivises and leads to greater levels of private R&D. Data from six Latin American countries⁴ (Crespi and Zuniga, 2010) show that this kind of push for innovation does lead to productivity growth at the firm level. Similar evidence from Uruguay (Cassoni and Ramada, 2010) and from the Ukraine (Vakhitova and Pavlenko, 2010) further shows the positive link between innovation and productivity.

Where public policy can play an important role is in financing (or the ‘push’ for) ‘basic research’ – that is, research into scientific fundamentals, which is currently underserved by the private sector, but can help push the global productivity frontier and foster innovation at the firm level (OECD, 2015b).

Comparisons of productivity increases between the implementation of HRM practices and the push for innovation show that innovation can lead to greater productivity gains (at the firm level) than the implementation of new HRM practices (Bartz et al., 2015).

Innovation policy links back to the development of financial systems. There is some evidence to suggest that firms gain higher levels of productivity from increased innovation where there are more developed financial systems (Dabla-Norris et al., 2015). Essentially, this means that any innovation policy aimed at productivity enhancement needs to be backed up by financial sector deepening where financial sectors are not well established.

Furthermore, innovation policy becomes an important tool in the medium- to long-term structural transformation agenda. As countries develop, boosts to firm productivity become increasingly more reliant on multi-factor sources – that is, greater efficiency of both capital and labour through innovation (OECD, 2015a; Braconier et al., 2014), rather than through improvements in labour productivity alone.

4 Argentina, Chile, Colombia, Costa Rica, Panama and Uruguay.

4. Donor support for economic transformation

This section runs through different types of donor interventions that can target economic transformation. The section first provides details of Kaizen, a short description of its implementation in Asia and how it is being implemented in Africa, especially in the Ethiopian context where it has achieved the most prominence.

This is followed by a highlight of other approaches to productivity enhancement, from special economic zones (SEZs) to value chain analysis. The description does not focus on specific donors but rather looks at general approaches.

The section divides donor interventions across seven broad themes. The first directly looks at the specifics of the Kaizen model and highlights how the approach works. The second theme looks at the SEZ approach, with an emphasis on the Chinese SEZ model. The third looks at interventions that operate at the local level (One Village One Product (OVOP), local economic development, clustering and value chain approaches, etc.). The fourth looks at interventions that target the investment and business climate. The fifth considers business development interventions such as Business Development Services and Business Incubators. The sixth theme covers interventions that support industrial and innovation policy, while the final theme is access to finance.

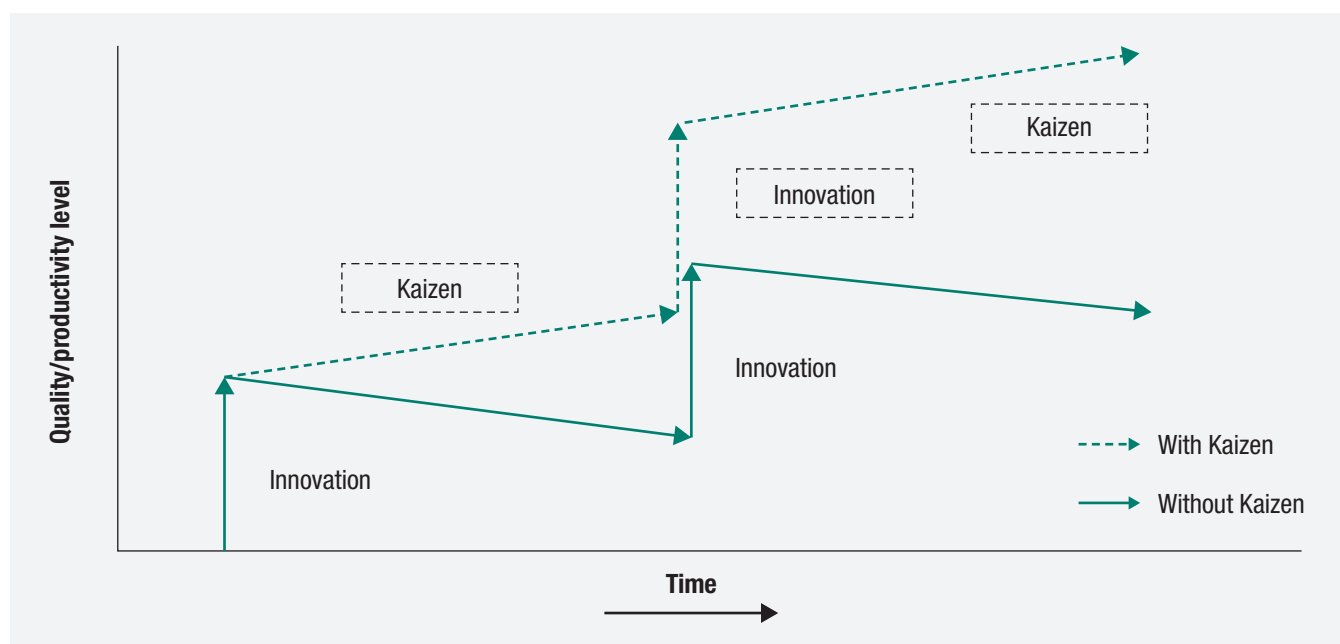
4.1. Kaizen

The Japanese concept of Kaizen simply translated means ‘continuous improvement’. It is a firm-level process whose implementation in manufacturing firms is widely espoused as a successful productivity enhancement strategy. Kaizen is a system that allows organisations to improve their business activities and processes and is aimed at establishing a cycle of continuous (incremental) improvements and innovation.

The concept is nested within the idea of *monozukuri* (‘making things’) which, in this context, refers to making things to the customer’s satisfaction (Ohno, 2011; JICA, 2011). The process is company-wide, involving all levels of the firm from top-level management to front-line workers, but it is at the front line that most emphasis is placed.

Innovation is a key part of the process, through a stepped approach (see Figure 5 below) where the innovation boundary, over time, is buoyed by the implementation of Kaizen, rather than degrading without it. The implementation of Kaizen, therefore, helps keep innovation at the forefront of a firm’s operations, essentially turning it into a regular part of their processes.

Figure 5. The Kaizen innovation steps



Source: Ueda (2009)

The Kaizen cycle is based on a revolving and essentially *endless* implementation of the PDCA – Plan, Do, Check and Action – cycle. The idea is to understand what productivity enhancement improvements can be made, implement them and then, once the improvement has become a standard part of the operating process, move on to the next step of the improvement cycle.

Kaizen operations use a combination of tools such as Quality Circle 7 Tools,⁵ waste elimination (*muda* in Japanese), the implementation of the 5Ss,⁶ firm/plant layout improvements, reducing set-up times for operations, the use of suggestion boxes and so on (Ueda, 2009).

Implementing Kaizen should not require additional investment by participating firms, although it is based on strong commitment by top management and requires implementation from the bottom up, i.e. from the factory floor (Homma, 2014).

JICA has, historically, been a key driving force in the adoption of the Kaizen process in firms in partner countries in Asia. JICA is now implementing Kaizen in sub-Saharan Africa. Kaizen projects are currently implemented in Ethiopia, Kenya, Ghana, Zambia and Tanzania and target sectors include manufacturing (including agro-processing, metals, and the textiles and leather sub-sectors), services and the public sector.⁷

Kaizen is effectively located in the ‘middle’ of JICA’s approach to private sector development, nested within its SME development strategy (which also includes SME development organisation strengthening and SME policy formulation activities), supported by its local economy development strategy (i.e. OVOP – see below) and its trade and investment promotion strategy (trade policy and trade-strengthening activities).

JICA introduced the Kaizen approach to Singapore in response to the country’s request for assistance with productivity development in 1983. The approach was iterative but eventually led to the introduction of Kaizen processes which continued until 1990. The initiative was a three-way process involving the government, industry and labour organisations and benefited from strong commitment from the Singaporean prime minister. In Thailand, the approach was implemented between 1994 and 2001 (the Quality and Productivity Improvement Project) through the Thailand Management and Productivity Centre (which was turned into the Thailand Productivity Institute), providing productivity consulting services, labour management relations advice and research for participating firms (Ueda, 2009).

The Kaizen approach has already been implemented by the Japanese government in several developing countries in Asia and has shown a degree of success that spurred its replication in other developing areas of the world, including in Africa (Ohno, 2011).

JICA’s efforts in Africa began with its implementation in Tunisia in 2006 (through pilot demonstrations and the formulation of a master and action plan). In Egypt, JICA supports the Kaizen Center through a cooperation with Egypt’s Ministry of Trade and Industry (Ueda, 2009). Since 2008 JICA has also been working in Zambia through annual National Kaizen conferences (between 2010 and 2013) and through the setting up of the Kaizen Institute of Zambia in 2014 (Homma, 2014).

One key feature of JICA’s implementation of Kaizen is that it has shifted the process from a private sector-led implementation (as was originally the case with Japanese firms that first started using it) to one led by the public sector (i.e. the partner country governments) although the focus is still (mainly) on firm-level productivity improvements. The process has also grown – Kaizen is used not only for industrial development but also to improve productivity in public services and utility management such as energy or health care (Homma, 2014). One example of Kaizen in a non-firm-related use is its JICA-implemented use to improve hospital management systems in Sri Lanka, Bangladesh and Tanzania (Kitano, 2014).

Currently, the most prominent case of JICA-implemented Kaizen in Africa is Ethiopia. The process began in 2009 through a partnership with Ethiopia’s Ministry of Industry at the request of the country’s prime minister and is part of JICA’s ‘National Movement for Mindset Change’ approach to private sector development enhancement in the country (Kitaw, 2011) and JICA’s Industrial Policy Dialogue with Ethiopia (Homma, 2014). In Ethiopia, Kaizen implementation was carried out in two phases:

- **Phase 1** (2009–2011) included the undertaking a study on quality and productivity improvement and formulation of a national plan, including the identification of 30 pilot companies and Kaizen capacity-building in Ethiopia’s Ministry of Industry and Trade. Phase 1 also included the setting up of the Ethiopian Kaizen Institute in 2011.
- **Phase 2** (2011–2014) included the implementation of the Project for Capacity-Building for Dissemination of Quality and Productivity Improvement. The scale-up of participating firms included 65 medium and large enterprises and 190 micro and small enterprises. The second phase also included capacity-building for the Ethiopian Kaizen Institute staff.

Evaluations of the effect of the use of Kaizen in Ethiopia have shown that firms that implement the approach see a reduction in the amount of costs, non-value adding activities and wasteful practices, with associated increases in value addition, profitability and productivity (Kitaw, 2011; Desta et al., 2014; Shimada, 2013).

5 Seven simple tools such as cause and effect diagrams, check sheets, control charts and so on used to determine and resolve quality issues.

6 Japanese terms that translate to ‘sort, systemise, sweep, standardise and self-discipline’.

7 See: http://www.jica.go.jp/english/news/field/2013/130529_01.html

The results of in-company training, carried out by the Ethiopia Kaizen Institute on participating firms⁸ in Ethiopia (Abebe and Zerfu, 2014), show some significant improvements in performance. Specifically, there were improvements in labour productivity (86% increase) and capital productivity (135%), and an increase of 59% in sales revenues. Similar results are reported across enterprises participating in the Kaizen pilot programme in Ethiopia (Shimada et al., 2013) where participating enterprises could attain an average ‘quantitative benefit’ of approximately \$30,500 per company by reducing overproduction, reducing the amount of materials used, the efficient use of capital and reductions in operating times.

There are several factors that have allowed the Ethiopian Kaizen approach to be a success, including the government’s strong commitment to the process, the way that Kaizen has been customised for the Ethiopia context to remove country-specific constraints (Abebe and Zerfu, 2014), its approach to skill developments in workers, as well as the core concepts behind Kaizen (Jin and Nigussie, 2015).

Kaizen was also introduced as a management training tool in the Kenyan government’s designated Kariobangi Light Industries zone in Nairobi, Kenya. The programme began life as a randomised controlled experiment but due to external circumstances, it was offered to 34 firms with no control firms. Of interest is the fact that comparisons between post-training and baseline surveys on firm operations showed a statistically significant impact of the Kaizen training programme on value-added (an increase of between 4% and 5%) and gross profits (an increase of between 5% and 6%) between 2006 and 2008, noting however that self-selection effects in terms of firms wanting to participate in an efficiency improvement programme may also contribute to this increase (Mano et al., 2014). Similar results, such as improved business practices and performance resulting from Kaizen implementation, were also found in small firms in Ghana (Mano et al., 2012).

What makes Kaizen, as adopted by JICA, different in its application in Africa and Asia is that the process has changed from a private sector-led approach to one led, and championed by, national governments. It can be (and often is) nested within the wider industrial policy context and relies on positive state–business interactions. The approach is not limited to firms either and can be more widely applied to services such as hospitals. Its ease of replicability, and its flexibility in adapting to local context, have also promoted its promulgation and made it a significant player in the context of economic transformation through firm-level interactions.

Kaizen deals with firm-level productivity enhancements with wider benefits. Its indirect impacts, however, go beyond the firm level. Its engagement process requires strong collaborative links with partner country governments which help to strengthen pro-productivity institutional thinking, potentially translating into wider pro-productivity policy engagements and outcomes.

Impacts can also occur at the sectoral level, as firms that use the Kaizen process become more productive and gain a greater market share (with potential inter-firm resource allocation outcomes).

There is also a potential interface between the implementation of Kaizen processes and international trade participation, with resultant intra-sectoral shifts towards more productive firms. The Kaizen programme can help firms increase their participation in international trade by strengthening their productivity.

The process can result in further intra-sectoral reallocation of resources away from less productive firms to those using the Kaizen process. From a second-order effect point of view, there may also be an increase of within-firm wages when foreign competition is introduced as greater international competition may increase the prevalence of incentive pay structures.

4.2. Special economic zones

Special economic zones (SEZs) have been in existence, in one form or another, for centuries. In their modern incarnations, they have evolved from free trade zones (FTZs) in the 1900s to today’s SEZs, of which the most prominent are the Chinese SEZs established in the late 1970s. Over the last three decades, more than 2,000 SEZs have been created in China (Farole, 2011). The proliferation of SEZs has resulted in a number of different zone set-ups included within the definition of an SEZ. These now include (Akinici and Crittle, 2008):

- *Free trade zones (FTZ)*: fenced-in, duty free areas that offer warehouses, storage and distribution facilities for trade.
- *Export processing zones (EPZs)*: industrial estates generally aimed at production for foreign markets (i.e. exports).
- *Enterprise zones*: used to revitalise urban areas through the provision of tax incentives and grants.
- *Freeports*: large areas that accommodate multiple types of activities (i.e. multiple sectors), allow residential use and provide a range of incentives and benefits for firms in the area.
- *Single factory EPZs*: provide incentives, irrespective of location, to individual firms through incentives and privileges.
- *Specialised zones*: including areas such as technology parks, sectoral specialisation zones, logistics parks and airport-based zones.

It is difficult to estimate the number of existing SEZs, although the World Bank’s Facility for Investment Advisory Services (FIAS) numbers from 2008 suggest that there were approximately 2,500 SEZs in developing countries of which approximately 120 were in sub-Saharan Africa (Akinici and Crittle, 2008). Multiple donor and multilateral

8 44 SMEs and 13 larger enterprises.

agencies are involved (to a greater or lesser extent) in SEZ operations including the Asian Development Bank (ADB), the International Labour Organization, the United Nations Industrial Development Organization (UNIDO) and the World Bank. However, it is recognised that most individual donors do not have the resources to individually set up, manage and operate SEZs, hence partnerships with local governments are usually undertaken (Farole, 2011).

SEZs operate on various strategic levels, following the framework set-up in Section 2. SEZs target all three levels of productivity improvement: reallocating to more productive sectors, reallocating resources to more productive firms and helping improve individual firm productivity. At the national level, SEZs can act as a test-bed for reforms that can be further implemented, although critics say that they can also be used to avoid wide-ranging reforms if they are only contained within the SEZ and not rolled out more widely (Akinci and Crittle, 2008)

There is a focus on Chinese SEZs because they are touted as potentially successful variations of the SEZ due to several factors. These include Chinese officials' expertise in setting up successful SEZs in China; the fact that Chinese SEZs represent special commercial and political interests of the Chinese government, which has resulted in multiple incentives for firms to set up within them; and finally the fact that Chinese SEZs are profit-driven, which should (theoretically) allow more efficient operations (Brautigam et al., 2010). Part of the success of Chinese SEZs is also attributable to their emphasis on technology learning, innovation, firm upgrading and the strong links that they can create with the local economy (Zeng, 2015).

Although none of these factors makes Chinese SEZs inherently more likely to succeed than other SEZs, the fact that they represent special Chinese interests may mean that greater effort is made in ensuring their success.

The Chinese SEZ model, in relation to Africa, is particularly important due to their widespread nature. Chinese SEZs have been set up in Egypt, Ethiopia, Zambia, Nigeria and Mauritius with varying degrees of partnership, from wholly owned by the Ministry of Commerce People's Republic of China (MOFCOM) and Chinese enterprise ownership, to partnerships between local government and Chinese enterprises (Woolfrey, 2013).

These Chinese SEZ zones have arisen as trade between China and Africa has increased, including greater manufacturing trade, which has enabled Chinese firms to directly produce goods in Africa. They can also be thought of as a basic model of development cooperation between China and the African countries within which they are implemented (Brautigam and Tang, 2011).

Lessons from Chinese SEZs in Africa show that success is not a given even when following the Chinese model, as most SEZs in Africa have not been able to enable structural economic transformation (Zeng, 2015). Most SEZs in Africa, when compared to those in other countries, have been less successful, with only a few (in Kenya, Madagascar, Mauritius and Ghana) enjoying relative success compared to non-African SEZs. Causes of this may include the lack of an effective business regulatory

environment, issues with energy provision and limited transportation links (Farole, 2011) as well as the fact that these zones have not been in operation long enough to have significant impacts (Zeng, 2015). Issues that have arisen in African SEZs include (Zeng, 2015):

- outdated or non-existent legal and regulatory frameworks for SEZs, where current frameworks do not cater to the needs and requirements of existing SEZs, deterring investment in the zones
- inefficient business environments raising transaction and operational costs for enterprises, even where 'one-stop shops' (i.e. agencies that are meant to expedite bureaucratic procedures for businesses such as licensing etc.) are implemented
- no strategic planning behind their set-up, which is driven more by political will rather than by demand from local businesses
- limited infrastructure such as utilities (energy, gas, water, etc.) and transport links
- limited experience in zone management for the relevant zone development authorities, which limits the identification of the best partners to provide critical expertise on zone operations.

4.3. Clustering and value chain approaches

4.3.1. Firm clustering and local economic development

Cluster development is a potential driver of growth in developing countries as it allows the concentration of resources into targeted areas that have strong potential for high growth and positive development outcomes, impacts which can be spread beyond the cluster through spillover and multiplier effects. Given the potential benefits of clusters, but also the fact that often these fail on their own and require external support, donor involvement is often required (UNIDO, 2013). A number of donor agencies use the cluster approach to target particular geographic locations, including (among others) the World Bank, the Asian Development Bank, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and UNIDO.

Clusters are defined as 'geographic concentrations of inter-connected enterprises and associated institutions that face common challenges and opportunities' (UNIDO, 2013). Firms within a cluster often share a number of features (such as requiring the same inputs and selling to similar markets).

There are a number of 'naturally occurring' clusters such as a particular area of California referred to as Silicon Valley due to its large concentration of ICT firms or the City of London, where financial (and related) firms have created an international financial hub. Cluster development can also be shaped through development support. Such clusters can incorporate support institutions such as business associations, business development services (BDS) agencies, financial service providers, training agencies, etc. (UNIDO, 2013).

There are three main methods that donors can use to determine or shape cluster development within their target geographic area (Maxwell Stamp, 2013).

1. The top-down approach: cluster priority is drawn from economic analysis that highlights sectoral and cluster priorities.
2. The bottom-up approach: cluster strategy is created by actors within sectors through an agreed need to promote closer inter-firm links.
3. The hybrid approach: drawing both from top-down analysis and intra-sectoral collaborative agreements.

UNIDO's approach to cluster development is based on four key principles: its focus on existing clusters; promoting pro-poor growth based on private sector development (PSD) by enhancing labour productivity, innovation and participation in markets by the poor; encouraging efficiency gains through joint actions; and strengthening cluster governance mechanisms. It has implemented these in many clusters such as in Ecuador for garment and footwear, in Nicaragua with cocoa, in Turkey in the textiles sector and in Ethiopia for oilseed producers (UNIDO, 2013).

The local economic development (LED) approach is similar to clustering, but is aimed at existing firms (and households) in a specific geographic area, rather than promoting sector-specific firm clustering. The aim of LED is to 'build up economic capacity of a local area to improve its economic future and quality of life for all' and it hinges on building up the strengths of local communities, based on their social and physical attributes (World Bank, 2006). Approaching LED requires a mixture of investment in local infrastructure and the implementation of other activities that can have productivity-enhancing effects. In terms of infrastructure, emphasis should be placed on the development of critical infrastructure such as transport facilities and utilities, as well as infrastructure that can support activities in specific sectors, for instance, irrigation for agriculture, preservation activities and cultural enhancements (e.g. museums) for tourism. The approach also requires the implementation of several activities (discussed in other sections of this report) such as setting up firm clusters, providing business development services, improving access to finance etc. (Hobson, 2011).

Evidence from clustering and LED effects on manufacturing firms in Ethiopia has shown that there is a positive relationship between agglomeration of firms and physical productivity (Siba and Gebreeyesus, 2014; Gebreeyesus and Mohnen, 2011). Similar evidence is found for Vietnamese firms (Howard et al., 2014), manufacturing firms in Pakistan (Burki and Khan, 2011) and to a lesser extent for manufacturing firms in Cambodia (Chhair and Newman, 2014).

The clustering and LED approaches are, in terms of their productivity-enhancing approach, hybrid systems like SEZs in that they can benefit both inter-firm productivity enhancement as well as intra-firm improvements in productivity. They achieve the former by promoting the emergence (and survival) of more productive firms, and the

latter through its productivity-enhancing effects thanks to the economies of scope that it promotes.

4.3.2. One Village One Product (OVOP)

One Village One Product (OVOP) is a non-typical approach to increasing productivity as it targets villages rather than sectors or individual firms – hence it is closer in philosophy to a cluster approach to productivity enhancement. The approach was first successfully pioneered in the Japanese prefecture of Oita (Kurokawa et al., 2008).

The approach encourages villages to specialise in the production of something that 'is unique in the world'. The theory states that the uniqueness of these products will protect their price on the global market by reducing market price aggregation pressures, an effect which would not occur for less differentiated goods. In other words, by being unique there is more scope to set the price of the product rather than it falling into a (lower) global average price band (UNIDO, 2008).

The OVOP approach is used by a few donor agencies such as JICA and UNIDO (Kurokawa et al., 2008; UNIDO, 2008). JICA's principles for the implementation of OVOP are that: products in the scheme should be local yet global, i.e. they should represent a local region but be available globally; (2) villages should be allowed to choose what products they will specialise in, while governments and donor agencies should only provide technical assistance; and (3) OVOP needs to promote human resource development and skill improvements where it is implemented.

The OVOP approach is also expected to reduce several constraints that SMEs face in areas such as low labour skills (through training courses), providing advice on technology upgrading and standards adherence, linking local SMEs to international value chains (for instance, JICA linking SMEs in Africa to Japanese firms), and improving access to credit through government policy changes (Kurokawa et al., 2008).

4.3.3. Value chain interventions

The value chain approach is a sectoral-level support system that looks to improve the competitiveness and position of sectors (through interventions with individual firms within sectors) within local and global value chains. The value chain approach works at both the vertical and horizontal levels. Vertical level refers to processes upstream (input providers) and downstream (distributors or processors) relative to a firm within a value chain. Horizontal level refers to cooperative links with other firms at the same level of a value chain.

A number of donor agencies support value chain interventions, usually nested within their PSD or market development intervention processes. Prominent donors include GIZ, USAID, the World Bank, and UNDP.

Humphrey and Navas-Aleman (2010) describe four types of value chain interventions undertaken by such donors. The interventions target 'links' within the chain, which are either the firms that operate in a value chain or the transaction

systems (both tangible and intangible) that connect firms. These four can be described as:

1. *Working with the weakest links.* These activities work on the basis that the efficiency of the chain depends on the performance of each ‘link’ within the chain. Interventions begin by understanding what the impact of a link within a chain is and subsequently focus on resolving issues at the link (i.e. firm) level, thereby upgrading operations of input suppliers to improve outcomes for processors and so on.
2. *Improving the flows between firms.* Limited knowledge flows among firms and between firms and their markets can result in lost market opportunities. Similarly, missing resource flows that could enhance productive capacity (i.e. credit or inputs flowing between firms) can also have negative impacts on firm success.
3. *Improving links between firms.* Transactions between firms are often more complex than simple buying and selling relationships and are often formed on a trust basis. Where extra protective measures should be taken (due to either a lack of trust or mistrust between firms), deals can often fall through, leading to missed business opportunities.
4. *Creating new or alternative links.* Alternative links in value chains can be used to improve the overall efficiency of the whole value chain by either providing new supply sources, brokering links with alternative intermediary firms or providing alternative markets for products.

The ILO (2015) suggests a five-step Value Chain Development Cycle for interventions. The first step is sector selection – i.e. what sector should be promoted (chosen based on the objective criteria of interventions). The second step is an analysis of the market system that maps the links, opportunities, constraints and complexities within a sector. The third step is intervention design, which needs to be built around local realities and include solutions to resolve specific bottlenecks. The fourth step is the implementation of the intervention, which needs to ensure financial sustainability, replicability as well as adaptability to changing market conditions. The final step is intervention monitoring and evaluation, which helps monitor their success.

The impact of value chain interventions is difficult to measure, mainly due to the qualitative nature of the process that is typically used to measure their success (Humphrey and Navas-Aleman, 2010), therefore limiting the knowledge base in relation to their impact on productivity. Some evidence is found in a review of agricultural-focused value chain interventions across a range of developing countries, where donor interventions were found to increase productivity but mainly in the form of agricultural yield improvements (Kidolo and Child, 2014).

4.4. Investment climate support

4.4.1. Investment climate and business environment programmes

There is a particularly large range of donor-supported investment climate reform (ICR) and business environment reform (BER) programmes. Essentially, ICR and BER programmes can be split up into four categories (see Table 2). At the individual country level, these programmes can target reforms either in specific sectors or products (often linking reforms to value chain interventions) or they can be cross-sectoral reforms such as the simplification of business processes in Nigeria by the UK’s Department for International Development (DFID), business inspection reforms in Uzbekistan by the IFC, or enterprise law reforms in Vietnam by the UNDP.

Wider ranging programmes can target ‘similar’ (i.e. issue-specific) reform processes across multiple countries, such as DFID’s Legal Assistance for Economic Reform programme which tackles the legal aspects of economic reform; USAID’s Enabling Agricultural Trade programme that promotes enabling environments for agribusinesses; or the World Bank’s Doing Business index which is not a reform programme per se but is used as a standard against which the status of national-level business environments and investment climates and reforms of these are measured and compared.

Table 2. Typologies of ICR/BER donor support programmes

	Sector-specific	Cross-sectoral
Country-specific	<p>Target individual sectors, sub-sectors or specific products</p> <p>Can link to, or are a part of, other programmes, i.e. value chain and Business Service Delivery interventions</p> <p>Use the bottom-up approach, i.e. starting from constraint up towards intervention</p>	<p>Target reforms that have national-level impacts</p> <p>Target country-specific investment climate/business environment constraints</p> <p>Can be tied to overarching national reform processes</p>
Cross-country	<p>Aimed at investment climate/business environment issues such as land or trade reform processes</p> <p>Leverage cross-country lesson learning and donor expertise specific fields</p>	<p>Wide-ranging approach tackling multiple investment climate/business environment issues</p> <p>Often implemented as part of wider reform packages in individual countries</p> <p>Top-down approach, but can be tailored to individual country circumstances or needs</p>

Reform programmes can also be a part of wider, more systemic approaches to reform which target multiple issues across several countries, for instance, the Poverty Reduction Strategy Paper (PRSP) approach by the World Bank or the European Union's Structural Reform process across its member states.

The impacts (and scale of impact) of ICR or BER programmes on productivity will depend on the type of activities carried forward. It is conceivable that the effects can have an impact from the firm level upwards by removing constraints to productivity (i.e. reducing operational costs, in turn freeing up more capital to invest in productivity-enhancing measures) as well as at the inter-firm level where market entrance, or greater market share capture, for more productive firms is facilitated.

Some evidence has emerged on the impacts of investment climate reforms.

4.4.2. M4P programmes

The Making Markets Work for the Poor (M4P) approach has been pioneered by donor agencies – most prevalently by DFID, the Swedish International Development Cooperation Agency (SIDA) and the Swiss Development Corporation (SDC). The M4P approach works on the basis that markets need to operate efficiently to address the problems of the poor. The M4P approach seeks to address four main issues (Heierli, 2008):

1. The fact that **markets for the poor are less attractive to business** – in other words, the bottom of the pyramid approach which seeks to make 'poor' markets more lucrative (or attractive) for businesses.
2. Products that are suitable for the rich **may not be suitable for the poor** – the M4P approach looks to incentivise the production (or distribution) of goods that are suitable for the poor.
3. **Barriers to entry** for the poor into the market – technological, social, economic or skill-based barriers (or a combination of all four) that raise entrance and transaction costs, can stop the inclusion of the poor in markets.
4. **Transaction costs** – informality within the poorer sectors of the markets increases transaction (and operational) costs for 'poor' enterprises. Improving the organisation of the 'poor' firms through M4P activities can help reduce these transaction costs.

The M4P approach is, essentially, a series of market scoping and mapping exercises aimed at understanding how the four constraints above can be resolved. The approach then uses the mapping exercise to identify where interventions can resolve these issues. There is no single type of intervention package that is applied by the M4P system – rather it can include a wide range of actions from regulatory changes at the national level to individual firm interventions or activities (Springfield Centre, 2014).

Challenge Funds can be thought of as a part of the M4P approach since they aim to mitigate risks in markets where business innovation could contribute to poverty alleviation

(Pompa, 2013b). Challenge Funds aim to stimulate innovative business practices through competitive processes without creating market distortions.

Although not directly targeting increased productivity, M4P approaches focus on innovation and efficiency measures that may have productivity-enhancing effects by allowing the reallocation of resources towards sub-sectors that provide underserved (domestic) markets as well as barriers to firm entry into the market, such as transaction costs. Although most 'firms' that would benefit from the approach are likely to be micro-enterprises, improvements in the business regulatory environment and reductions in market entry and transaction costs can also provide wider positive productivity benefits at the national (or at least sectoral) level.

4.5. Business development

4.5.1. Business development services

Business development service (BDS) donor interventions aim to improve the performance of small enterprises in developing countries. Multiple activities fall under the BDS umbrella, including training, advisory and consultancy services, information and knowledge dissemination, technology transfer (and development) and the promotion of business links. These are divided between 'strategic' and 'operational' services. Firms use strategic services to improve medium- and long-term performance within a firm, whereas operational services are those that support day-to-day business operations (tax management, etc.) to improve the operational efficiency of client firms (World Bank, 2001).

In the traditional approach to supply-side BDS support, donors would directly fund public BDS providers. The approach is criticised (for example by the World Bank) as unsustainable since BDS services may no longer be offered once donor subsidies end. The newer 'market-based' approach alternatively used by donors is to provide support to BDS programmes through a facilitator. The facilitator would start providing or even establish BDS services (that are often not available in undeveloped markets) and subsequently operate these on market principles, removing donor support once these have been firmly established.

Donors may also provide support on the demand side of BDS, by providing subsidies to firms to enable them to access BDS services. Such funding usually targets specific enterprise typologies (e.g. micro-enterprises), industries or geographic locations (DANIDA, 2009). Donors such as the Australian Department for Foreign Affairs and Trade (DFAT) also provide in-kind support (such as volunteer technical assistance). There has also been a drive to provide support to larger firms to implement specific initiatives that may have positive development impact outcomes; for example, DFID provides funds and assistance to firms in order to improve their corporate social responsibility activities in developing countries through its Business Innovation Facility (Smith, 2013). Indirect support to firms is also channelled through support to innovation hubs

where knowledge can be gathered and distributed across firms; examples include the UNDP-sponsored Business Fights Poverty and the multi-donor Practitioner Hub for Inclusive Business.

4.5.2. Business incubators

Business incubators play a very similar role to BDS providers but are geared towards start-up firms rather than existing enterprises. Instead of acting as individual suppliers to different firm needs, incubators act as ‘one-stop shops’ where start-up firms can physically locate, using the services offered by the incubator, providing a degree of support that should increase their survival chances once the firm leaves the incubator.

A review of business incubator impacts (Pompa, 2013a) highlights that there have been positive impacts on firm survival rates in several situations. Available data show that across North America, the EU and Australia, incubators helped create 200,000, 40,000 and 10,500 new jobs, respectively. Other impacts are however difficult to measure, since incubators generally do not monitor productivity impacts but tend to measure success on jobs created and firm survival rates.

Donor support to business incubators is mainly channelled through the infoDev programme, which provides business incubation services in more than 80 developing countries and is geared towards the promotion of technology-centric start-ups. A World Bank review of infoDev incubators shows that they have served approximately 20,000 enterprises and created 220,000 jobs.

Evidence of their impact through a cross-country and cross-sectoral review highlights that less than 50% of firms within an incubator exit the market within the first five years of operation. Evidence from the US suggests that firms in incubators create more jobs and have a higher sales growth rate than their non-incubator peers but tend to fail faster (Pompa, 2013b).

4.6. Support for industrial and innovation policy

Donor support for industrial policy encompasses a wide spectrum of activities. Different approaches are used both within and between donor agencies, with activities including a few of those already discussed in the paper (provision of BDS, promotion of clusters and LEDs, innovation strengthening, investment climate and business environment reforms, etc.) as well as other activities such as providing funds for the research, analysis and implementation (or guidance) of industrial policy.

Donor support to industrial policy can be significant and can drive most industrial policy-making in less developed countries by supplying funds and technical expertise to draw up and implement policy which may not otherwise be available. Donor interventions can be beneficial in that they can drive policy processes, but at the same time they can also reduce local capacity to internally drive the process and may contribute to policy fragmentation (Altenburg, 2011).

Donor involvement in supporting policy aimed at strengthening innovation within developing countries is based on the principle that innovation is essential to improve competitiveness and allows firms to grow both at the national and the international levels. Donor interventions should strengthen the ‘innovation system’ (either at the sectoral or national level) so that countries can ‘generate’ innovation on a sustainable basis in the long term (BMZ, 2011).

Donor support to innovation policy is carried out through an overarching framework known as ‘Innovation Systems’, which are interactions between companies, research organisations and government combined with the creation, diffusion and use of innovations. Support is provided through the creation of an enabling environment – this could include several interventions, such as providing financial support, but can essentially be broken down into three main processes (GIZ, 2014):

1. support to the four sub-systems of innovation: human and social capital, research capacity, technological and innovative firms, and follower firms and users.
2. creating links between the above four sub-systems, allowing constant exchange of resources – the stronger the links, the more productive the innovation system.
3. providing the correct framework conditions which impact the capacity for firms to innovate, such as the quality/ quantity of infrastructure (such as access to the internet), legal requirements (intellectual property rights laws, etc.), access to services (finance, etc.) and the capacity for firms to enter and exit markets.

Overall, donor support to innovation has positive impacts on productivity, but the systems to enable this can range from national-level (or even regional-level) interventions which aim to strengthen research and innovation capacities at the systemic level down to sectoral- or firm-level interventions that are aimed at removing constraints or strengthening capacity for innovation.

4.7. Access to finance

Donor support for improved access to finance allows firms to increase their productive capacities by improving access to finance that, in turn, opens up opportunities for productivity-enhancing investments. These interventions fall into three main strands:

1. supporting systemic changes to the financial systems
2. support through multilateral and bilateral development finance institutions (DFIs)
3. direct support through local financial institutions (including the provision of microcredit).

Systemic changes to financial systems – for example, financial deepening interventions (the productivity implications or which are discussed in Section 3) – can take a range of forms. These can include research, policy support and policy implementation. DFID plays an important role in such activities, with its involvement in the FinMark initiative, which aims to enhance financial inclusion of the poor, the setting up of the Financial Deepening Challenge Fund or its

work on the Kenya Financial Deepening Programme (FSDK) and the Access to Finance Rwanda initiative. The FSDK programme is estimated to have increased overall financial inclusion from 58.7% of the population to 67.3% between 2006 and 2009 (KPMG, 2012).

Access to finance through DFIs revolves around two main systems. The first is through DFI investments in projects across multiple sectors, where the DFI provides a portion of the funding (the remainder is leveraged through private finance) and is intended to play both an additional role (providing finance which would otherwise not be available in the commercial sphere) and a catalytic role (spurring other private entities to invest in similar projects once their feasibility and profitability have been established). These investments tend to directly target firms (or groups of firms) that are either based or look to invest in developing countries. The second DFI *modus operandi* channels funds to financial institutions in developing countries, allowing them to open credit lines to ventures that are supposedly 'riskier' (such as to SMEs) or to firms in sectors that may have been neglected (such as agribusiness) (Lemma, 2015).

While the productivity impacts of DFI operations are not generally quantified, they have had some success in creating jobs, increasing the availability of infrastructure and contributing to growth in operational countries (Lemma, 2015).

The final approach is direct support to increase credit availability. The World Bank discusses several schemes which

have been used to improve access to finance (specifically for SMEs), including credit guarantee systems, provision of equity finance, up-scaling microfinance services, supporting community banks and downscaling existing commercial banks, also allowing them to focus on smaller enterprises (World Bank, 2010). Some of these initiatives can be carried out through DFI support, but also through direct implementation; for instance, DFID's Financial Sector Deepening Africa programme and business partnership programmes such as BMZ's DeveloPPP.de or Norad's Business Matchmaking Programme are directly implemented by donor agencies (Lemma and Ellis, 2014).

Evaluations of the impacts of DFI finance on SME credit shows that DFI lending activities can successfully reduce the barriers to finance. DFIs are also better placed than local governments to help SMEs access finance thanks to their operating models (which work through local intermediaries), improved cost-efficiency of operations and their capacity to offer an integrated approach towards SME access to finance (Dalberg, 2011).

All three forms of support aim to reduce the barriers to accessing finance through institutional, legal and regulatory changes at the national level. These benefit firms looking for investment finance through the provision of greater credit flows and through the removal of barriers (such as informational asymmetries) which reduce financial institution lending to SMEs. Greater access to finance allows firms to invest more and potentially to raise their productivity.

5. Comparing Kaizen and other approaches

This section relates Kaizen to other donor approaches in relation to the three processes of productivity enhancement outlined in Section 2 and triangulates these to the different types of policy interventions outlined in Section 3. The section then provides a brief comparison of Kaizen with the donor approaches that also specifically target firm-level interventions, highlighting differences between the approaches. Finally, it tries to connect Kaizen to the other approaches by providing an overview of its similarities and differences, where potential synergies exist and what considerations need to be considered in terms of economic transformation impacts.

The comparison helps us understand what approaches target these three ‘levels’ of intervention; it locates Kaizen in the spectrum and provides a simplified view of its role in productivity enhancement as well as helping to understand

its unique location within the spectrum of interventions. Essentially, it lets us see where Kaizen stands in regards to:

1. donor approaches and policies that target within-firm level productivity interventions
2. donor approaches and policies that impact inter-firm resource allocation
3. donor approaches and policies that impact resource allocation across sectors.

Table 3 shows the results of the comparison. Some interventions target multiple approach levels; for example, the SEZ approach (including all the different uses of the term SEZ) targets interventions at both the individual firm and inter-firm intervention levels and can be tied to national sectoral prioritisation strategies.

Table 3. Comparison of donor approaches

Donor approach	Within-firm level	Between firms	Across sectors	Policy
Kaizen	Implementation of multiple productivity enhancement measures for implementation by individual firms, such as increases in absorption capacity of resources and innovation promotion	Set-up of Kaizen Institutes can have an impact on a wider scale. Firms that sign up to the Kaizen process may benefit from better productivity and enjoy greater market share		<ul style="list-style-type: none"> • Management practices • Industrial policy • Innovation policy • FDI and GVC promotion • State–business relations
M4P	Stimulate innovation or pro-poor interventions for individual firms	Challenge Funds (or similar) approaches can benefit particular firms over non-participating firms in the sector	Reduces barriers to market entry for the smallest firms Opens underserved markets	<ul style="list-style-type: none"> • Investment climate reform • Competition promotion
SEZs	Can target individual firms through incentives to invest within the SEZ	Indirectly shifts resources to firms operating in an SEZ compared to those outside the zone by providing facilitative support and a series of potential competitive advantages	Specialised parks, either thematic (i.e. science or industry focused) or based around the support of particular sectors can be tied to national development/prioritisation plans	<ul style="list-style-type: none"> • Industrial policy • Innovation policy • FDI and GVC promotion • Export diversification • State–business relations
Value chain approach	Targeting links (i.e. firm productivity improvements) within value chains to improve the overall efficiency of the whole chain	May enhance productivity in firms within selected value chains compared with firms in similar value chains which are not part of the initiative	Favouring interventions in specific sectors	<ul style="list-style-type: none"> • FDI and GVC promotion • Industrial policy
Invest climate and business environment reform	Simplified regulatory processes can reduce cost burdens on firms, increasing revenues and capacity to invest and innovate	Improved transparency can open up playing field for more productive firms reducing market share for incumbents. Reforms that target issues within specific sectors can remove constraints to firm growth	Although reforms generally alter regulations, laws and policy in order to create a more conducive business/investment climate and enhance productivity for all firms within a country, they can also target specific sectors	<ul style="list-style-type: none"> • Investment climate reform • Industrial policy • Innovation policy • State–business relations • Financial sector development

Table 3. Comparison of donor approaches (continued)

Donor approach	Within-firm level	Between firms	Across sectors	Policy
Industrial and innovation policy support	Inclusive of a number of activities that have firm-level impacts, e.g. BDS	Industrial policy may target particular categories of firms within a sector (e.g. size or ownership) Innovation policy can favour more pro-active firms	Can result in the prioritisation of particular sectors (or sub-sectors)	<ul style="list-style-type: none"> • Industrial policy • Innovation policy • State–business relations
Clustering and LED approaches	Economies of scope and scale can help improve productivity for firms belonging to the cluster	Can promote the emergence (and survival) of more productive firms		<ul style="list-style-type: none"> • Industrial policy • Innovation policy
One Village One Product	Activities aimed at improving productive capacity within firms in target areas	May shift competitiveness poles into affected areas, negatively impacting firms outside target region		<ul style="list-style-type: none"> • Export diversification • Management practices • Innovation policy
Business incubators	Providing BDS, training, access to finance, land and utilities to individual firms	Provides greater firm entry levels, although firms in incubators also tend to exit markets at a faster pace	Can be tailored to specific sectors, although it is usually emergent and additional to existing sectors	<ul style="list-style-type: none"> • Management practices • Innovation policy
Business development services	Financial subsidisation can be provided to individual firms to spur their participation	Providing various services to individual firms to either improve medium-long-term productivity or support daily operations		<ul style="list-style-type: none"> • Management practices • Innovation policy
Access to finance	Allows firms to invest, expand and improve productive capacity		Can open financial flows to sectors which may previously have been underserved	<ul style="list-style-type: none"> • Financial sector development • Industrial policy • Innovation policy

The table highlights the fact that there is a significant amount of overlap between donor approaches; for example, USAID’s LEO programme, which targets value chain interventions, also increasingly looks at market systems (the M4P approach) in its activities (Humphrey, 2014). Similarly, BDS approaches are often implemented at the inter-firm level of value chain operations (Humphrey and Navas-Aleman, 2010) and also include firm-level training services (World Bank, 2001).

Where the overlaps are most evident is in regard to how these approaches can target multiple productivity-enhancing policies. At the same time, policies can be supported by a wide range of donor interventions and the fact that some intervention modalities are themselves composed of multiple activities.

These overlaps do not suggest that there may be an overabundance of donor interventions (nor do they disprove such a theory), but they show that productivity-enhancement approaches and the policies that they support are complex initiatives which often require multi-faceted approaches to achieve their goals.

What the overlaps do suggest is that there is enough space in the policy sphere for multiple programmes that can target individual levels of the economic transformation curve. The key question is whether these programmes are redundant or whether they are complementary.

To get a better idea of this, we now focus only on firm-level approaches, where Kaizen can be most directly compared to other donor interventions (see Table 4) such as BDS, value chain interventions and business incubators.

From this comparison we can see that Kaizen fits into its own niche within the range of interventions without duplicating other programme initiatives. It focuses on working with firms that are inherently interested in working through the process, which acts as a self-selection bias.⁹ While it ensures that participating firms are committed to the approach – an important factor in ensuring Kaizen’s success – it limits understanding of whether the process can be successfully applied at greater scale (e.g. through changes in policy or regulation).

At the same time, it does not select firms through sub-sectoral or geographic preferences and is open to firms across all industrial and manufacturing sub-sectors anywhere within a given participating country.

The fact that the Kaizen approach works with already established companies distinguishes it from incubator service interventions, which reduces the risk of participating firms exiting the market and at the same time increases their survival probabilities.

In addition, Kaizen’s use of a standard set of tools increases the chances of successfully replicating the approach. The approach and the tools used are flexible enough to ensure that

⁹ This is where firms voluntarily choose to participate in the programme, which has causation implications when determining the effects of Kaizen, as volunteer firms will be more willing to work in the Kaizen process, skewing towards more favourable results than in a situation where a broader group of firms would have participated in the process.

Table 4. Kaizen compared to other firm level interventions

Intervention	Specific scope	Participation bias	Tools used	Positives	Drawbacks
Kaizen	Participating firms	Self-selection	Specific set of tools (5Ss, <i>Muda</i> , etc.) that are tailored to individual country constraints	Does not require additional investments by firms Can be sustained through public institutions such as the Ethiopia Kaizen Institute	Presently limited participation, but should be scaled up over time
Business incubators	Participating firms within incubator	Start-up firms; may also be sector-specific	Provides a range of support from access to services up to infrastructure (e.g. energy)	Provides support for new firms in the market Can help access critical services and infrastructure	No support provided post start-up phase Low level of firm survival
Business development services	Firms with limited managerial and resource capacity	Only firms with the financial capability, or financial support can engage BDS	A range of externally provided services (e.g. back-office services) on a commercial basis	Provides services which firms may not have access to Can be implemented commercially	Firms need to rely on external entities for services Firms need to be able to financially afford BDS services
Value chain interventions	Weak links within value chains	Limited only to firms within targeted value chains	Range of tools, dependent on sector and location in value chain	Can target specific strategic sectors or sub-sectors	Excludes firms in non-participating value chains

they can be adapted to local contexts, particularly the removal of country-specific constraints to firm operations.

What distinguishes it from BDS is that it seeks to internalise any lessons learnt so that firms do not have to rely on external service providers to effectively implement any productivity-enhancing measures. While BDS usually require a financial contribution by participating firms, Kaizen does not require investment in additional resources. This makes the approach sustainable in the long term from both a practical and commercial perspective.

Such an approach can also have indirect impacts, for example, BDS impacts will target individual firm productivity levels, but this can result in indirect resource

allocation away from firms that cannot partake in the benefits of BDS participation. The fact that Kaizen only requires a minimal additional financial commitment by firms helps to potentially negate such undesired effects.

We have seen that although Kaizen is clearly one of multiple interventions that have firm-level productivity-enhancing properties, its *modus operandi* as well as its specific firm-level focus distinguishes it from several other similar approaches. We now look at how Kaizen fits into the wider range of donor programmes by looking at the similarities and differences, the synergies with Kaizen and the potential economic transformation considerations that need to be considered (see Table 5).

Table 5. Kaizen similarities, synergies and economic transformation considerations

Donor intervention	Similarities and differences to Kaizen	Kaizen synergies	Potential economic transformation considerations
Access to finance	<ul style="list-style-type: none"> National-level approach rather than firm-specific level Both can target SMEs, but Kaizen targets directly rather than indirectly 	<ul style="list-style-type: none"> Can help scale up productivity improvements carried out through Kaizen Kaizen implementation can be carried out even in the absence of financial instruments 	<ul style="list-style-type: none"> Opens up productivity enhancement investment opportunities at the national level May require specific vehicles to target firm-level (e.g. SME) finance
SEZs and LEDs	<ul style="list-style-type: none"> Geographic limitations of SEZs and LEDs Provide productivity enhancement services to firms 	<ul style="list-style-type: none"> Kaizen practices can be offered as additional services within SEZs or for firms within the SEZ/LED zone 	<ul style="list-style-type: none"> If Kaizen is limited only to SEZ/LED participating firms, exclusion of outside firms could reduce transformative impacts at the sectoral or national level
Firm clustering	<ul style="list-style-type: none"> Focuses on improvements through economies of scale/scope 	<ul style="list-style-type: none"> Can be used to disseminate Kaizen practices efficiently among firms 	<ul style="list-style-type: none"> Requires successful agglomeration and cooperation among firms Can result in sectoral productivity improvements if Kaizen transmission mechanisms are well established

Table 5. Kaizen similarities, synergies and economic transformation considerations (continued)

Donor intervention	Similarities and differences to Kaizen	Kaizen synergies	Potential economic transformation considerations
M4P	<ul style="list-style-type: none"> • Policy approach • Based on 'bottom of the pyramid' market uplifting • Challenge Fund focus on innovation fits well with Kaizen 	<ul style="list-style-type: none"> • Could potentially be used as part of the M4P package as support to firms 	<ul style="list-style-type: none"> • Can provide greater market demand opportunities for firms to exploit
Value chain approach	<ul style="list-style-type: none"> • Only targets firms within the focus value chain, targets can potentially be displaced across several countries 	<ul style="list-style-type: none"> • Can use Kaizen tools to improve productivity in 'weak link' firms 	<ul style="list-style-type: none"> • Should selected value chains prove to not be commercially viable, impacts would either be lessened or non-existent • Successful Kaizen application could result in invigorated value chains
OVOP	<ul style="list-style-type: none"> • Village-level initiative • Includes firms within the given geographic delineation 	<ul style="list-style-type: none"> • Kaizen processes can fit into OVOP systems 	<ul style="list-style-type: none"> • Can benefit national or regional productivity enhancements if OVOP is applied to multiple villages
Business development services	<ul style="list-style-type: none"> • Both target firms, although Kaizen is more focused on productivity enhancement while BDS can provide a whole range of services • BDS use requires a financial commitment which is not necessary with Kaizen 	<ul style="list-style-type: none"> • Kaizen training can be included in the scope of services offered by BDS firms 	<ul style="list-style-type: none"> • Impact of Kaizen may be limited if only offered on a commercial basis and exclude firms with greater resource constraints • Impacts may also be reduced as successfully commercial firms may have lower incentives to implement the process
Business incubators	<ul style="list-style-type: none"> • Firm-level intervention • Focused on start-up firms rather than already existing firms 	<ul style="list-style-type: none"> • Kaizen can be applied to start-up to ensure high production standards from the beginning of a firm's life cycle 	<ul style="list-style-type: none"> • Can potentially shift resource allocation to new firms if their productivity levels are higher than existing firms • Low firm survival rates can mean wasted resources by targeting start-ups instead of already established firms
Business environment and investment climate reforms	<ul style="list-style-type: none"> • Targets policy interventions rather than practical firm solutions 	<ul style="list-style-type: none"> • Reduces external constraints to firm growth while Kaizen targets internal inefficiencies 	<ul style="list-style-type: none"> • Can result in national- or sectoral- level improvements in productivity at all levels • Requires Kaizen to be scaled up across many firms to take advantage of BE/IC reforms
Industrial and innovation policy support	<ul style="list-style-type: none"> • Policy approach • Aimed at all firms within target sectors rather than specific firms • Can sometimes target individual firms • Strong focus on innovation, like Kaizen 	<ul style="list-style-type: none"> • Kaizen can support industrial policy by applying its processes to focus sector firms • Innovation policy should support the implementation of Kaizen due to its strong commitment to continuous innovation and improvement 	<ul style="list-style-type: none"> • At scale, Kaizen can help increase productivity and innovation across multiple firms; this can help achieve industrialisation and innovation targets set by industrial and innovation policy processes

The comparison in Table 5 shows that there are similarities and differences between Kaizen and other donor programmes, however as we have already seen, Kaizen occupies a specific space in the range of implementations.

Kaizen focuses on one key aspect of economic transformation: improving firm-level productivity. What it does not do, which could be improved in the future, is look at the effects on individual workers within Kaizen-implementing firms, i.e. how it affects turnover rates, trained labour productivity, etc.

Kaizen complements other approaches that aim to support economic transformation through other means. JICA implements the Kaizen approach by operating directly with firms to improve their productivity and by providing support to institutions (i.e. Kaizen Institutions) that work with firms.

Such positioning allows it to create positive synergies with many other programmes, including those it is most similar to (i.e. those in Table 4). The table highlights several important aspects that need to be considered with regards to creating strong economic transformation impacts:

- Kaizen needs to be able to be scaled and replicable to improve its effectiveness at the national level. A scaling-up process would also allow more firms to take advantage of any other simultaneous changes to productive capacity or opportunities – such as reforms in the business environment or a widening of market demand.
- Replicability could be promoted through business associations or local chambers of commerce that could be valuable partners in the process, allowing firms to share efficiency-enhancing business practices. Country-specific good practices (such as worker skill training) need to be analysed to create established procedures that firms can successfully implement.
- Thanks to the set procedures and standards of Kaizen, its processes can potentially be added to several other donor tools – they can be a part of the BDS and Business Incubator toolkit, an additional offering for firms in SEZs or within LED/clustering zones.
- It is important that Kaizen processes, as they target potentially less productive firms, should not be constrained to specific sectors or exclusively offered as a commercial service. They should also not be limited to firms whose survival may be impaired (such as new firms) as this would be a potential waste of resources.
- Restrictions to the implementation targets of Kaizen (i.e. restricting which firms can apply to the process)

would not widely benefit productive capacity at either the sectoral or the national level, nor would they allow Kaizen to target firms that might benefit the most from its usage.

- The relative simplicity of the Kaizen toolkit and the fact that it requires no additional firm resources means that it can also be potentially transmitted through donor programmes that focus on agglomerations (clustering, SEZs, LEDs etc.), which can increase its adoption rate.

These synergies point to two main conclusions. The first is that its *modus operandi* should allow it to be integrated across a range of donor approaches, which makes it a complementary and not an additional process. The second conclusion is the need to scale up Kaizen. This should be carried out in two different ways. The first through its monitoring and evaluation processes, allowing a more thorough analysis of its impacts, providing stronger evidence of its effectiveness and allowing comparability with other, similar, schemes.

The second type of scale-up should be through its implementation, giving access to more firms at the national level (this is where Kaizen Institutions will be of most value) and across more countries, taking advantage of its strong complementarities with other productivity-enhancing programmes.

References

- Abebe, G. and Zerfu, A. (2014) 'Learning to be efficient: The Effect of Kaizen in Company Training on workplace practices and enterprise performance'. Working paper. Ethiopian Development Research Institute.
- Ackah, C., Aryeetey, E., Ayee, J. and Clotey, E. (2010) 'State-Business Relations and Economic Performance in Ghana'. IPPG Discussion Paper Series 35. Manchester: IPPG (<http://www.ippg.org.uk/papers/dp35a.pdf>).
- Aghion, P., Bloom, N., Blundell, R., Griffith, R. and Howitt, P. (2005) 'Competition and Innovation: An Inverted-U Relationship', *The Quarterly Journal of Economics* 120(2).
- Aghion, P., Braun, M. and Fedderke, J. (2008) 'Competition and Productivity Growth in South Africa', *Economics of Transition* 16(4).
- Aghion, P., Howitt, P. and Prant, S. (2013) 'Revisiting the Relationship Between Competition, Patenting and Innovation' in Acemoglu, D., Arellano, M. and Dekel, E. (eds) *Advances in Economics and Econometrics* (Tenth World Congress, Volume 1, Economic Theory). Cambridge, MA: Cambridge University Press.
- Ahn, S. (2002) 'Competition, Innovation and Productivity Growth: A review of Theory and Evidence'. OECD Economics Department Working Paper No. 317. Paris: OECD.
- Akinci, G. and Crittle, J. (2008) 'Special Economic Zones: Performance, Lessons Learned and Implications for Zone Development'. Washington D.C.: Facility for Investment Climate Advisory Services (FIAS), World Bank.
- Altenburg, T. (2011) 'Industrial Policy in Developing Countries: Overview and lessons from seven country cases'. DIE Discussion Paper 4/2011. Bonn: Deutsches Institut für Entwicklungspolitik (DIE).
- Altenburg, T. (2007) 'Donor Approaches to Supporting Pro-Poor Value Chains'. Donor Committee on Enterprise Development (DCED) (<http://www.die-gdi.de/uploads/media/DonorApproachestoPro-PoorValueChains.pdf>).
- Andersson, L.F. (2007) 'Firm demography and aggregate productivity growth'. Osterund: Institutet for Tillvaxtpolitiska Studier (ITPS) (<http://www.oecd.org/std/productivity-stats/37490582.pdf>).
- Asian Development Bank (ADB) (2011) 'Competitive Cities in the 21st Century: Cluster Based Local Economic Development'. Manila: Asian Development Bank.
- Aw, B.Y., Chen, X. and Roberts, M.J. (2001) 'Firm-level evidence on productivity differentials and turnover in Taiwanese manufacturing', *Journal of Development Economics* 66.
- Baily, M., Hulten, C. and Campbell, D. (1992) 'Productivity Dynamics in Manufacturing Plants'. Brookings Papers: Microeconomics. Washington D.C.: Brookings Institute.
- Bartelsman, E. and Doms, M. (2000) 'Understanding Productivity: Lessons from Longitudinal Microdata', *Journal of Economic Literature* 38(3).
- Bartelsman, E., Haltinwanger, J. and Scarpetta, S. (2013) 'Cross-Country Differences in Productivity: The Role of Allocation and Selection', *American Economic Review* 103(1).
- Bartz, W., Mohnen, P. and Schweiger, H. (2015) 'What improves firm productivity more, innovation or management practices?' University of Frankfurt, Maastricht University and the European Bank for Reconstruction and Development (EBRD).
- Bastos, F. and Nasir, J. (2004) 'Productivity and the Investment Climate: What Matters Most?'. World Bank Policy Research Working Paper 3335. Washington D.C.: World Bank.
- Basu, S., Fernald, J. G. and Kimball, M. S. (2006) 'Are Technology Improvements Contractionary?', *The American Economic Review* 96(5).
- Bellack, C. (2004) 'How Domestic and Foreign Firms Differ and Why Does it Matter?'. Vienna University Department of Economics Working Paper 87. Vienna: Vienna University of Economics and BA (<http://core.ac.uk/download/pdf/11007065.pdf>).
- Bloom, N. and Van Reenen, J. (2010) 'Human Resource Management and Productivity'. NBER Working Paper 16019. Cambridge, MA: National Bureau of Economic Research.
- Bloom, N. and Van Reenen, J. (2007) 'Measuring and Explaining Management Practices Across Firms and Countries', *The Quarterly Journal of Economics* 122(4).
- Bloom, N., Draca, M. and Van Reenen, J. (2011) 'Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity'. NBER Working Paper 16717. Cambridge, MA: National Bureau of Economic Research.
- Bloom, N., Eifert, B. M., McKenzie, A. and Roberts, J. (2013) 'Does Management Matter? Evidence From India', *The Quarterly Journal of Economics* 128(1).
- Bloom, N., Sadun, R. and Van Reenen, J. (2012) 'The Organization of Firms Across Countries'. *The Quarterly Journal of Economics* 127(4).

- Blundell, R., Duncan, A. and Meghir, C. (1998) 'Estimating Labor Supply Responses Using Tax Reforms', *Econometrica* 66(4).
- BMZ (2011) 'Innovation Policy: AK-ISF Argumentation Paper on Promotion of Innovation Systems'. Bonn: BMZ. (<http://www.enterprise-development.org/page/download?id=1726>)
- Braconier, H., Nicoletti, G. and Westmore, B. (2014) 'Policy Challenges for the Next 50 years'. OECD Economic Policy Paper 9. Paris: OECD.
- Brautigam, D., Farole, T. and Tang, X. (2010) 'China's Investment in African Special Economic Zones: Prospects, Challenges and Opportunities'. World Bank, Economic Premise, March 2010, No. 5. Washington D.C.: World Bank.
- Brautigam, D. and Tang, X. (2011) 'African Shenzhen: China's Special Economic Zones in Africa', *Journal of Modern African Studies* 49(1).
- Burki, A. A. and Khan, M. A. (2011) 'Agglomeration Economies and their Effects on Technical Inefficiency of Manufacturing Firms: Evidence from Pakistan'. London: International Growth Centre (IGC).
- Cali, M. (2010) 'Measuring state-business relations in Indian states'. London: IPPG, Overseas Development Institute (ODI) and UK Department for International Development (DFID).
- Cassoni, A. and Ramada, M. (2010) 'Innovation, R and D Investment and Productivity: Uruguayan Manufacturing Firms'. IDB Working Paper IDB-WP-191. Washington D.C.: Inter-American Development Bank.
- Castany, L., Lopez-Bazo, E. and Moreno, R. (2005) 'Differences in Total Factor Productivity Across Firm Size. A Distributional Analysis.' Barcelona: AQR Research Group, Universitat de Barcelona and Parc Científic de Barcelona.
- Chhair, S. and Newman, C. (2014) 'Clustering, Competition and Spillover Effects: Evidence from Cambodia'. WIDER Working Paper 2014/65. Helsinki: UNU-WIDER.
- Chen, M. (2010) 'Financial Effects and Firm Productivity: Evidence from Chinese Manufacturing Data'. Nottingham: University of Nottingham (<http://www.nottingham.ac.uk/gep/documents/conferences/2010/postgraduate/elizabethchen-pgr2010.pdf>).
- Crespi, G. and Zuniga, P. (2010) 'Innovation and Productivity: Evidence from Six Latin American Countries'. IDB Working Paper Series IDB-WP-2018. Washington, D.C.: Inter-American Development Bank.
- Criscuolo, C., Martin, R., Overman, H. and Van Reenen, J. (2007) 'The effect of industrial policy on corporate performance: Evidence from Panel Data'. London: Centre for Economic Performance (CEPR), London School of Economics.
- Cunat, V. and Guadalupe, M. (2009) 'Globalisation and the provision of incentives inside the firm: the effect of foreign competition', *Journal of Labor Economics* 27(2).
- Dabla-Norris, E., Guo, S., Haksar, V., Kim, M., Kochar, K., Wiseman, K. and Zdzienicka, A. (2015) 'The New Normal: A Sector-Level Perspective on Productivity Trends in Advanced Economies'. IMF Staff Discussion Note. Washington, D.C.: International Monetary Fund.
- Dalberg (2011) 'Report on Support to SMEs in Developing Countries through Financial Intermediaries'. New York, NY: Dalberg.
- Danish International Development Agency (DANIDA) (2009) 'Synthesis of Evaluations on Support to Business Development'. Copenhagen: DANIDA.
- De Loecker, J. (2012) 'Detecting Learning by Exporting', *American Economic Journal: Microeconomics* 5(3).
- De Loecker, J. (2007) 'Do exports generate higher productivity? Evidence from Slovenia', *Journal of International Economics* 73.
- Dercon, S. and Gollin, D. (2014) 'Agriculture in African Development: A Review of Theories and Strategies'. CDAE Working Paper WPS/2014-22. Oxford: Centre for the Study of African Economies.
- Desta, A., Asgedom, H. B., Gebresas, A. and Asheber, M. (2014) 'Analysis of Kaizen Implementation in Northern Ethiopia's Manufacturing Industries', *International Journal of Business and Commerce* 3(8).
- Doms, M., Dunne, T. and Troske, K. R. (1997) 'Workers, Wages and Technology', *The Quarterly Journal of Economics* 112(1).
- Escribano, A. and Guasch, J. L. (2005) 'Assessing the Impact of the Investment Climate on Productivity Using Firm-Level Data: Methodology and the Cases of Guatemala, Honduras and Nicaragua'. World Bank Policy Research Working Paper 3621. Washington D.C.: World Bank.
- Farole, T. (2011) 'Special Economic Zones in Africa: Comparing Performance and Learning from Global Experience'. Washington D.C.: World Bank.
- Farole, T. and Winkler, D. (2014) 'Making Foreign Direct Investment Work for Sub-Saharan Africa'. Washington D.C.: World Bank.
- Foster, L., Haltiwanger, J. and Syverson, C. (2005) 'Reallocation, Firm Turnover and Efficiency: Selection on Productivity or Profitability?' NBER Working Paper 11555. Cambridge, MA: National Bureau of Economic Research.
- Gebreyesus, M. and Mohnen, P. (2011) 'Innovation performance and embeddedness in networks: evidence from the Ethiopian footwear cluster'. CSAE Conference on Economic Development in Africa.
- Gerschewski, S. (2013) 'Do Local Firms Benefit from Foreign Direct Investment? An Analysis of Spillover Effects in Developing Countries', *Asian Social Science* 9(4).

- Giandrea, M. D. (2006) 'Industry competition and Total Factor Productivity Growth'. BLS Working Paper 399. Washington, D.C.: US Department of Labour.
- Giri, R. and Teshima, K. (2013) 'Productivity Differences Between and Within Firms'. Mexico City: Centro de Investigacion Economica-ITAM.
- GIZ (2014) 'Toolbox for Promoting Innovation Systems'. Berlin: Deutsche Gesellschaft fur Internationale Zuseammenarbeit (GIZ) (<http://www.enterprise-development.org/page/download?id=1839>).
- Gollop, F.M. (1997) 'The Pin Factory Revisited: Product Diversification and Productivity Growth', *Review of Industrial Organisation* 12.
- Gorzig, B., Piekkola, H. and Riley, R. (2011) 'Production of intangible investment and growth: Methodology in Innodrive'. Innodrive Working Paper 1. Vaasa: University of Vaasa.
- Griffith, R., Redding, S. and Van Reenen, J. (2000) 'Mapping the Two Faces of R&D: Productivity Growth in a Panel of OECD industries', *Review of Economics and Statistics* 86(4).
- GTZ (2007) 'Local and Regional Economic Development: Towards a common framework for GTZ's LRED interventions in South Africa'. Bonn: German Organisation for Technical Cooperation (GTZ).
- Hale, G. and Long, C. (2007) 'Are there Productivity Spillovers from Foreign Direct Investment in China?'. FRBSF Working Paper. San Francisco, CA: Federal Reserve Bank of San Francisco.
- Hammouda, H.B., Karingi, S.N., Njuguna, A.E and Jallab, M.S. (2010) 'Growth, Productivity and Diversification in Africa'. Addis Ababa: United Nations Economic Commission for Africa (UNECA).
- Hashmi, A.R. (2011) 'Competition and Innovation: The Inverted-U Relationship Revisited'. DoE Working Paper 1101. Singapore: National University of Singapore.
- Harding, T. and Javorcik, B.S. (2007) 'Developing Economies and International Investors: Do Investment Promotion Agencies Bring Them Together?'. Policy Research Working Paper 4339. Washington D.C.: World Bank.
- Haskel, J.E., Pereira, S.C. and Slaughter, M.J. (2002) 'Does Inward Foreign Direct Investment Boost the Productivity of Domestic Firms?'. NBER Working Paper 8724. Cambridge, MA: National Bureau for Economic Research.
- Heierli, U. (2008) 'Market Approaches that Work for Development: How the Private Sector can Contribute to Poverty Reduction'. Bern: Swiss Agency for Development and Cooperation.
- Hobson, E. W. (2011) 'LED Investment Actions: A Guidance Note for Local Government'. LDI.
- Homma, T. (2014) 'JICA's Industrial Cooperation in Africa'. GRIPS Development Forum International Seminar on African Manufacturing, Tokyo.
- Howard, E., Newman, C., Rand, J. and Tarp, F. (2014) 'Productivity-enhancing manufacturing clusters: Evidence from Vietnam'. WIDER Learning to Compete Series – Working Paper 14. Helsinki: UNU-WIDER.
- Hsieh, C.T. and Klenow, P. J. (2009) 'Misallocation and Manufacturing TFP in China and India', *The Quarterly Journal of Economics* 124(4).
- Humphrey, J. and Navas-Aleman, L. (2010) 'Value Chains, Donor Interventions and Poverty Reduction: A Review of Donor Practice'. IDS Research Report 2010(63). Brighton: Institute of Development Studies.
- Humphrey, J. (2014) 'Market Systems Approaches: A Literature Review'. BEAM Exchange (https://beamexchange.org/uploads/filer_public/b2/3a/b23a3505-e3f1-4f63-8c0c-aeb35a763f91/beamliteraturereview.pdf).
- Hwang, I. and Wang, E. C. (2004) 'Does Openness to Trade Affect Total Factor Productivity Growth: Evidence from 45 Japanese Manufacturing Industries', *Journal of Economic Research* 9.
- Imbs, J. and Wacziarg, R. (2003) 'Stages of Diversification', *American Economic Review* 93(1).
- International Labour Organization (ILO) (2015) 'A Rough Guide to Value Chain Development: How to create employment and improve working conditions in targeted sectors'. Geneva: ILO.
- International Monetary Fund (IMF) (2014) 'Sustaining Long-Run Growth and Macroeconomic Stability in Low-Income Countries – The Role of Structural Transformation and Diversification'. IMF Policy Paper. Washington D.C.: IMF.
- Ito, K. (2011) 'Sources of Learning-by-Exporting Effects: Does Exporting Promote Innovation?'. Tokyo: Senshu University (<http://www.freit.org/WorkingPapers/Papers/FirmLevelProductivity/FREIT295.pdf>).
- Jang, S., Weng, M. and Wang, Y. (2005) 'Industrial Diversification and its Impact on Productivity Growth in Taiwan's Electronics Industry', *Asian Economic Journal* 19(14).
- Javorcik, B. S. (2008) 'Can Survey Evidence Shed Light on Spillovers from Foreign Direct Investment?' *World Bank Research Observer* 23(2). Washington D.C.: World Bank.
- Javorcik, B. S. (2004) 'Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers Through Backward Linkages'. *American Economic Review* 94(3).
- JICA (2011) 'The Study on Quality and Productivity Improvement (Kaizen) in the Federal Democratic Republic of Ethiopia'. Tokyo: JICA.
- Jin, K. and Nigussie, F. (2015) 'How Kaizen Becomes Effective in Ethiopia: Does Humanistic Aspect of Approach Matter?' Tokyo: JICA.
- Kathuria, V., Natarajan, R.R.S. and Sen, K. (2010) 'State business relations and manufacturing productivity growth in India'. Munich Personal RePEc Archive (MPRA) Paper 20314. Munich: MPRA.

- Keller, W. and Yeaple, S. (2008) 'Global Production and Trade in the Knowledge Economy'. mimeo. Boulder, CO: University of Colorado.
- Kidolo, M. and Child, K. (2014) 'Evaluating value chain interventions: A review of recent evidence'. ILRI Discussion Paper 26. Nairobi: International Livestock Research Institute.
- Kinda, T., Plane, P. and Véganzonès-Varoudakis, M. (2011) 'Firm Productivity and Investment Climate in Developing Countries: How Does Middle East and North Africa Manufacturing Perform?'. CERDI Etudes et Documents E2011.26. Claremont-Ferrand: CERDI.
- Kirkpatrick, C. (2014) 'Assessing the Impact of Regulatory Reform in Developing Countries'. *Public Administration and Development* 34.
- Kitano, N. (2014) 'Japan's Experiences on South-South and Triangular Cooperation'. Presentation at the North-East Asia Development Cooperation Forum (http://www.unescap.org/sites/default/files/3-2_Kitano.pdf).
- Kitaw, D. (2011) 'Experience of Kaizen in Ethiopia and the way forward'. Presentation at GRIPS, October 2011
- Kiyota, K. and Okazaki, T. (2013) 'Effects of Industrial Policy on Productivity: The case of import quota removal during postwar Japan'. RIETI Discussion Paper Series 13-E-093. Tokyo: Research Institute of Economy, Trade and Industry.
- Kowalski, P. and Buge, M. (2013) 'Assessing the Trade Related Sources of Productivity Growth in Emerging Economies'. OECD Trade Policy Papers 158. Paris: OECD.
- KPMG (2012) 'Financial Deepening and M4P: Lessons from Kenya and Rwanda'. Impact Paper 9. Amstelveen: KPMG.
- Krishnan, K., Nandy, D. and Puri, M. (2012) 'Increased Access to Financing and Firm Productivity'. Boston, MA: Boston Research Data Center (RDC) of the U.S. Census Bureau.
- Kurokawa, K., Tembo, F. and te Velde D.W. (2008) 'Donor support to private sector development in sub-Saharan Africa: Understanding the Japanese OVOP Programme'. ODI Working Paper 290. London: Overseas Development Institute.
- Lazear, E. P. and Shaw, K. L. (2007) 'Wage Structure, Raises and Mobility: An Introduction to International Comparisons of the Structure of Wages Within and Across Firms' NBER Working Paper 13654, Cambridge, MA: National Bureau of Economic Research.
- Lemieux, T., MacLeod, W. B. and Parent, D. (2007) 'Performance Pay and Wage Inequality'. IZA Discussion Paper 2850. Bonn: Institute of Labor Economics (IZA).
- Lemma, A. (2015) 'Development Impacts of DFIs: What are their impacts and how are they measured?'. Economics and Private Sector – Professional Evidence and Applied Knowledge Services (EPS-PEAKS) Paper. London: Overseas Development Institute.
- Lemma, A. and Ellis, K. (2014) Centrally Managed Donor Funds and Facilities to Promote Business Engagement. London: Overseas Development Institute.
- Leung, D., Meh, C. and Terajima, Y. (2008) 'Firm Size and Productivity'. Bank of Canada Working Paper 2008-45. Ottawa: Bank of Canada.
- Levine, O. and Warusawitharana, M. (2014) 'Finance and Productivity Growth: Firm Level Evidence'. Finance and Economics Discussion Series. Washington, D.C.: Divisions of Research and Statistics and Monetary Affairs Federal Reserve Board.
- Liang, F.H. (2017) 'Does Foreign Direct Investment Improve the Productivity of Domestic Firms? Technology Spillovers, Industry Linkages and Firm Capabilities', *Research Policy* 46(1).
- Lin, J. and Chang, H-J. (2009) 'Should Industrial Policy in Developing Countries Conform to Comparative Advantage or Defy it? A Debate Between Justin Lin and Ha-Joon Chang', *Development Policy Review* 25(5).
- Mano, Y., Akoten, J., Yoshino, Y., and Sonobe, T. (2014) 'Teaching KAIZEN to small business owners: An experiment in a metalworking cluster in Nairobi', *Journal of the Japanese and International Economies* 33.
- Mano, Y., Iddrisu, A. and Yoshino, T. (2012) 'How can micro and small enterprises in sub-Saharan Africa become more productive? The impact of experimental basic managerial training'. *World Development* 40(3).
- Manuel, C. (2015a) 'Is there a causal link between investment climate and growth? A review of the evidence'. DFID LASER. London: DFID.
- Manuel, C. (2015b) 'Investment Climate Reform Doing it Differently: What, Why and How'. DFID LASER, May 2015. London: DFID.
- Maxwell Stamp (2013) 'Guidelines for Cluster Development: A Handbook for Practitioners'. London: Maxwell Stamp PLC.
- McKenzie, D. and Woodruff, C. (2015) 'Business Practices in Small Firms in Developing Countries'. NBER Working Paper. Cambridge, MA: National Bureau of Economic Research.
- McMillan, M. (2013) 'The Changing Structure of Africa's Economies'. Presentation at the Overseas Development Institute, London, 28 October (<http://www.odi.org/sites/odi.org.uk/files/odi-assets/events-presentations/1537.pdf>).
- McMillan, M. and Rodrik, D. (2011) 'Globalisation, Structural Change and Productivity Growth'. NBER Working Paper 17143. Cambridge, MA: National Bureau of Economic Research.
- McMillan, M., Rodrik, D. and Verduzco, I. (2014) 'Globalisation, Structural Change and Productivity Growth with an Update on Africa', *World Development* 63.
- McMillan, M. Page, J., te Velde, D.W. and Booth, D. (2015) 'Supporting economic transformation: An approach paper' Supporting Economic Transformation (SET) report. London: Overseas Development Institute.

- Melitz, M. J. (2003) 'The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity'. *Econometrica* 71(6).
- Mukim, M. (2011) 'Does Exporting Increase Productivity? Evidence from India'. London: London School of Economics and Political Science (LSE).
- Nickell, S. (1996) 'Competition and Corporate Performance'. *Journal of Political Economy* 104(4).
- Nickell, S. and Van Reenen, J. (2001) 'Technological Innovation and Economic Performance in the United Kingdom'. London: CEPR.
- Nicodeme, G. and Sauner-Leroy, J. (2004) 'Product market reforms and productivity: a review of the theoretical and empirical literature on the transmission channels'. EC Economic Papers. Brussels: European Commission.
- Nicoletti, G. and Scarpetta, S. (2003) 'Regulation, Productivity and Growth: OECD Evidence' OCED Economics Department Working Paper 347. Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2015a) 'OECD Innovation Strategy 2015: An Agenda for Policy Action'. Paris: OECD.
- OECD (2015b) 'The Future of Productivity'. Paris: OECD
- OECD (2014) 'Factsheet on how competition policy affects macro-economic outcomes'. Paris: OECD.
- OECD (2013) 'Entrepreneurship at a Glance 2013'. Paris: OECD.
- Ohno, I. (2011) 'National Movements and the Synthesis of Selected Country experiences'. Chapter 1 in *Kaizen National Movement: A Study of Quality and Productivity Improvement in Asia and Africa*. JICA, December 2011
- Pompa, C. (2014) 'TVET and skills training in fragile and conflict affected countries'. EPS-PEAKS. London: DFID.
- Pompa, C. (2013a) 'Literature Review on the Impact of Business Incubation, Mentoring, Investment and Training on Start-up Companies'. EPS-PEAKS, London, February 2013
- Pompa, C. (2013b) *Understanding Challenge Funds*. ODI report. London: Overseas Development Institute.
- Qureshi, M. and te Velde D.W. (2007) 'State-Business Relations and Firm Performance in Zambia'. IPPG Discussion Paper 5. Manchester: IPPG.
- Ray, S. and Pal, M.K. (2010) 'Trend in Total Factor Productivity Growth in Indian Iron and Steel Industries Under a Liberalized Trade Regime: An Empirical Analysis with Adjustment for Capacity Utilization', *Journal of Applied Business and Economics* 11(3).
- Rocha, E.A.G. (2013) 'The Impact of the Business Environment on the Size of the Micro, Small and Medium Enterprise Sector; Preliminary Findings from a Cross-Country Comparison', *Procedia Economics and Finance* 4.
- Rodrik, D. (2013a) 'The Past, Present and Future of Economic Growth'. Global Citizen Foundation Working Paper 1. London: Global Citizen Foundation.
- Rodrik, D. (2013b) 'Unconditional Convergence in Manufacturing', *The Quarterly Journal of Economics* 128(1): 165-204.
- Rojid, S., Seetanah, B. and Shalini, R. (2010) 'Are State-Business Relations Important to Economic Growth? Evidence from Mauritius'. IPPG Discussion Paper Series 36. Manchester: IPPG.
- Rose-Ackman, S. (1991) 'Risk Taking and Ruin: Bankruptcy and Investment Choice', *The Journal of Legal Studies* 20(2).
- Sahay, R., Cihak, M., N'Diaye, P., Barajas, A., Ayala, D., Gao, Y., Kyobe, A., Nguyen, L., Saborowski, C., Svirydzenka, K. and Yousefi, S. R. (2015) 'Rethinking Financial Deepening: Stability and Growth in Emerging Markets'. IMF Discussion Note. Washington D.C.: International Monetary Fund.
- Sen, K. and te Velde, D.W. (2009) 'State-Business Relations and Economic Growth in Sub-Saharan Africa', *Journal of Development Studies* 45(8): 1-17.
- Shimada, G. (2013) 'The Economic Implications of Comprehensive Approach to Learning on Industrial Development (Policy and Managerial Capability Learning): A Case of Ethiopia'. JICA/IPD Africa Task Force Meeting, Yokohama, Japan. Tokyo: JICA.
- Shimada, G., Homma, T. and Murukami, H. (2013) 'Industrial Development in Africa'. *Inclusive and Dynamic Development of Africa*. Tokyo: JICA.
- Siba, E. and Gebreyesus, M. (2014) 'Learning to Export and Learning by Exporting: The Case of Ethiopian Manufacturing'. WIDER Learning to Compete Working Paper 24. Helsinki: UNU-WIDER.
- Smarzynska, B. (2002) 'Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backwards Linkages'. World Bank Research Working Paper. Washington D.C.: World Bank.
- Smeets, V. and Warzynski, F. (2011) 'Estimating productivity with multi-product firms, pricing heterogeneity and the role of international trade'. Working Papers 11-13. Aarhus: Aarhus University.
- Smith, W. (2013) *How Donors Engage with Business*. ODI report. London: Overseas Development Institute.
- Sollner, R. (2010) 'Product Diversification and Labour Productivity Dispersion in German manufacturing Industries'. Jena economic research paper 2010. Jena: Friedrich-Schiller-University.
- Springfield Centre (2014) 'The Operational Guide for Making Markets Work for the Poor (M4P) Approach, 2nd Edition'. The Springfield Centre for DFID and SDC.
- Syverson, C. (2011) 'What Determines Productivity?', *Journal of Economic Literature* 49(2).

-
- te Velde, D.W. (2006) 'Measuring State-Business Relations in Sub-Saharan Africa'. IPPG Discussion Paper Series 4. Manchester: IPPG.
- Thomas, R. and Narayanan, K. (2012) 'Productivity heterogeneity and firm level exports: the case of the Indian manufacturing industry'. Nottingham University, Nottingham, April 2012
- Tschumi, P. and Hagan, H. (2008) 'A Synthesis of the Making Markets Work for the Poor (M4P) Approach'. London: DFID and SDC.
- Tybout, J. R. (2000) 'Manufacturing Firms in Developing Countries: How Well Do They Do and Why?'. *Journal of Economic Literature* 38.
- Tybout, J. R. (2001) 'Plant- and Firm-level Evidence on 'New' Trade Theories'. NBER Working Paper 8314. Cambridge, MA: National Bureau of Economic Research.
- Ueda, T. (2009) 'Quality and Productivity Improvement: JICA's Kaizen Assistance'. Tokyo: JICA.
- United Nations Conference on Trade and Development (UNCTAD) (2015) 'The role of competition policy in promoting sustainable and inclusive growth'. Note by the UNCTAD Secretariat, April 2015. Geneva: UNCTAD
- United Nations Industrial Development Organization (UNIDO) (2013) 'The UNIDO Approach to Cluster Development: Key Principles and Project Experiences for Inclusive Growth'. UNIDO Technical Paper. Vienna: UNIDO.
- UNIDO (2008) 'The One-Village-One-Product (OVOP) movement: What is it, how has it been replicated, and recommendations for a UNIDO OVOP-type project'. UNIDO Research and Statistics Branch, Working Paper 03/2008. Vienna: UNIDO.
- United States Agency for International Development (USAID) (2005) 'Measuring Competitiveness and Labour Productivity in Cambodia's Garment Industry'. Washington D.C.: USAID
- Vartia, L. (2008) 'How do taxes affect investment and productivity? An industry-level analysis of OECD countries' OECD Economics Department Working Paper 656. Paris: OECD.
- Vakhitova, G. and Pavlenko, T. (2010) 'Innovation and Productivity: a firm level study of the Ukrainian Manufacturing Sector'. Kiev School of Economics Discussion Paper 27. Kiev: Kiev School of Economics.
- Woolfrey, S. (2013) 'Special economic zones and regional integration in Africa'. Tralac Working Paper S13WP10/2013. Cape Town: Tralac.
- World Bank (2001) 'Business Development Services for Small Enterprises: Guiding Principles for Donor Intervention'. Washington D.C.: World Bank.
- World Bank (2004) 'World Development Report 2005'. Washington D.C.: World Bank (http://siteresources.worldbankorg/INTWDR2005/Resources/complete_report.pdf).
- World Bank (2006) 'Local Economic Development: A Primer Developing and Implementing Local Economic Development Strategies and Action Plans'. Washington D.C.: World Bank.
- World Bank (2010) 'Scaling-Up SME Access to Financial Services in the Developing World'. Washington D.C.: World Bank.
- Zeng, D. G. (2015) 'Global Experiences with Special Economic Zones: Focus on China and Africa'. World Bank Policy Research Working Paper 7240. Washington D.C.: World Bank.



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