



# The role of Kaizen in economic transformation

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## Key messages

- Kaizen targets firm level productivity enhancement through the application of multiple efficiency enhancing tools.
- The implementation of Kaizen began in Japan, shifting 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 firm managerial and innovation practices and indirectly through business environment improvements.
- Although there are similar programmes, Kaizen distinguishes itself through its use of a set system which is, however, flexible enough to overcome local challenges.
- If Kaizen is scaled up, complementarities with other donor programmes could be strong, as long as 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 Resources Management
ICR	Investment Climate Reform
IFC	International Finance Corporation
ILO	International Labour Organisation
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 Aid

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# Executive summary

The report aims to understand where 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 i) improving productivity at the national level by allocating resources between sectors ii) productivity increases through shifts in resources from less to more productive firms and iii) 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 i.e. 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 FDI 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 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 i.e. industrial policy support which can be wide ranging or value-chain interventions which typically look at particular sectors of the economy.

A comparison of the donor approaches and policy interventions, vis-à-vis the three levels of productivity enhancement shows that multiple approaches can target both 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 5S's (modified to suit local conditions) that require limited additional investments and better use of existing resources by firms to implement. 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 a number of other donor programmes, including those most similar to it. To improve its effectiveness a number of considerations vis-à-vis its scale, integration into other donor approaches, firm targeting and exclusions need to be taken into account.





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# 1 Introduction

The Japanese International Cooperation Agency (JICA) provides support for Kaizen as a means to enhance economic development. Kaizen is a Japanese term which 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<sup>1</sup> and co-operative 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 of the role of Kaizen within the more traditional donor support community who are 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 followed. Section two 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 re-allocation 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, being a firm level intervention, is focused on one element of productivity increases (within firms).

Section three explores the typologies of different policies that can be implemented to promote productivity at the three levels explored in section two. Rather than outlying 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 four provides an overview of donor interventions aimed at enhancing productivity. The section proceeds to discuss the main motivations behind the interventions and provides examples of where they have been implemented. The section pays particular attention to the modalities of the Kaizen approach, highlighting it’s uptake in Africa (and Asia).

Section five provides a comparison of Kaizen with other donor intervention 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.

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<sup>1</sup> Automation is part of the ‘traditional’ Kaizen process as pioneered by Japanese firms, however it is not used by JICA in its implementation.

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# 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 whilst 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 principle, there are often strong directional pushes to channel resources towards particular (strategic) sectors. The modalities of resource allocation differ and are often used in conjunction with one-another i.e. the use of incentives (or disincentives) such as taxes or subsidies to allocate resources in particular sectors, or the implementation of industrial development policy which favours particular sectors over others.

This section is an attempt to illustrate different ways of productivity enhancement by relating each way to a different level of the economy i.e. from 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 which have higher productivity levels (McMillan and Rodrik, 2011).

Productivity gaps exist between economic sectors (i.e. 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 – were able to show increased growth thanks to booms in natural resources such as oil (Rodrik, 2013).

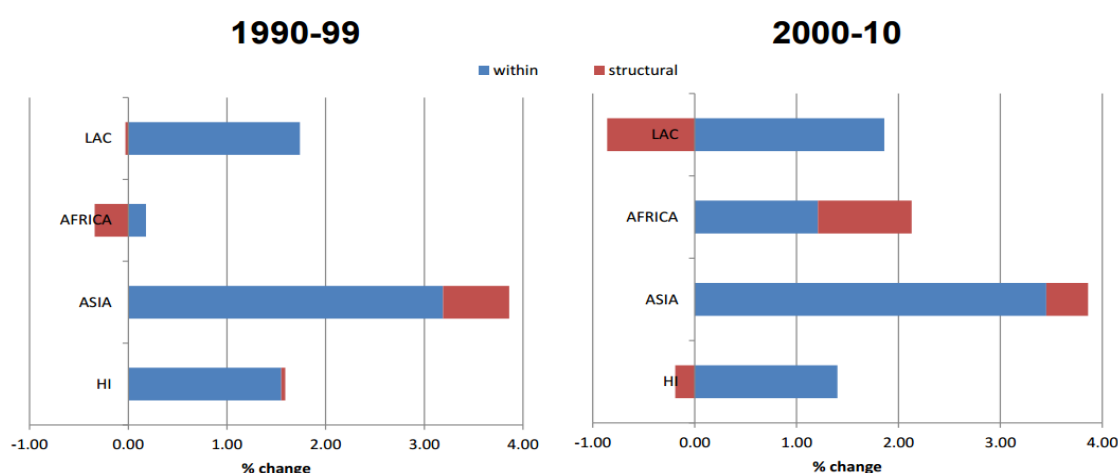
For example, concentrating on the manufacturing sector (as representative of a ‘modern’ sector) may be an important part of the productivity enhancement process. Data covering 118 countries (Rodrik, 2013 and Rodrik, 2013b) shows that within the formal manufacturing sector there is a labour productivity convergence over time i.e. countries where the productivity levels of manufacturing is 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 of 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 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 USA) shows 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 between sectors. The 1990 to 1999 period actually saw negative productivity changes in Africa due to structural changes (McMillan, 2013; McMillan and Rodrik, 2011), however data for 2000 to 2010 shows the reverse situation in Africa i.e. structural changes have positively contributed to productivity growth whilst the reverse is true for Latin American and High Income countries (McMillan et al. 2014).

**Figure 1: Decomposition of Productivity Growth Sources by Country Group**



Source: McMillan (2013)

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

- 
- The 1990 – 2000 period was one where countries were still adjusting to structural reforms
  - Significant increases in commodity prices (buoying expansion in the services sector)
  - Greater political stability (i.e. less civil wars)
  - Greater government accountability

Diversification across sectors, a result of resource re-allocation 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, 2013).

These results are in partial contrast to the idea that countries should specialise and engage in trade through the production of goods within which they have a comparative advantage (Rodrik, 2013). 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 which have higher shares of value-added products in their export basket (McMillan, et al. 2014).

What this essentially means is that there are some tension between the concept of specialisation and diversification as a route to productivity enhancement and therefore economic growth. This tension calls into play the debate between Justin Lin and Ha-Joon Chang (2009) about comparative vs. competitive advantage i.e. 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 re-allocation of resources towards where they provide the best gains.

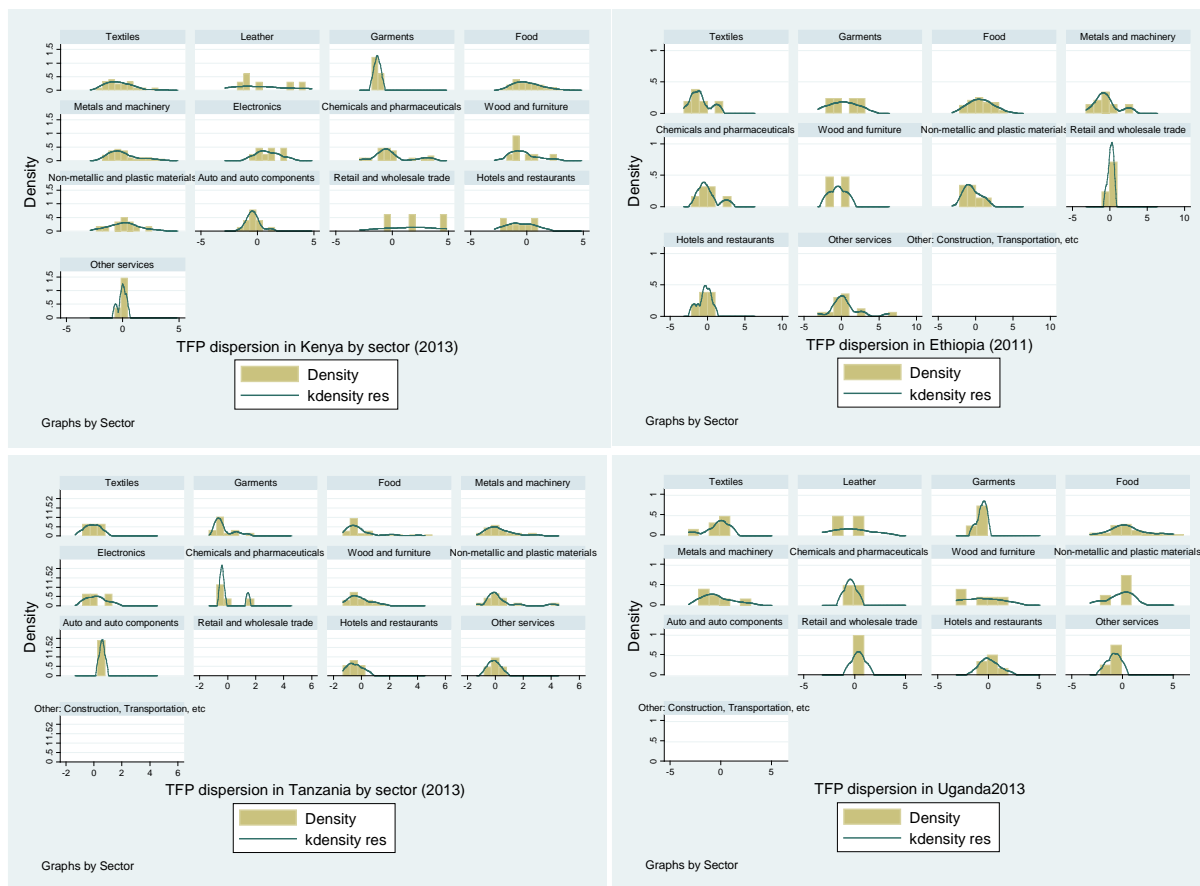
## 2.2 Moving Resources to Higher Productivity Firms

The second method of raising productivity is to ‘reallocate’ resources to more productive firms. Productivity differences do arise between firms within specific sectors, these differences can occur for a range of reasons such as different uses of labour (labour and employment practices as well as different labour skill mixes), capital intensity of production or even different positions within a value chain (either domestic or international).

As an example (figure 2 below) 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 comes from the most recent World Bank Enterprise Surveys conducted in each country hence a number of caveats apply in terms of data representation of which the most important 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 i.e. 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 i.e. garments (both in Kenya and Uganda) or retail (Uganda and Ethiopia).

**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 <http://set.odi.org/wp-content/uploads/2015/05/Sources-and-Methods-of-Data-on-Economic-Transformation.pdf> for methodology

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).

One component of the aspect of productivity suggests that 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, whilst exiting firms tend to be less productive (Aw et al. 2001).

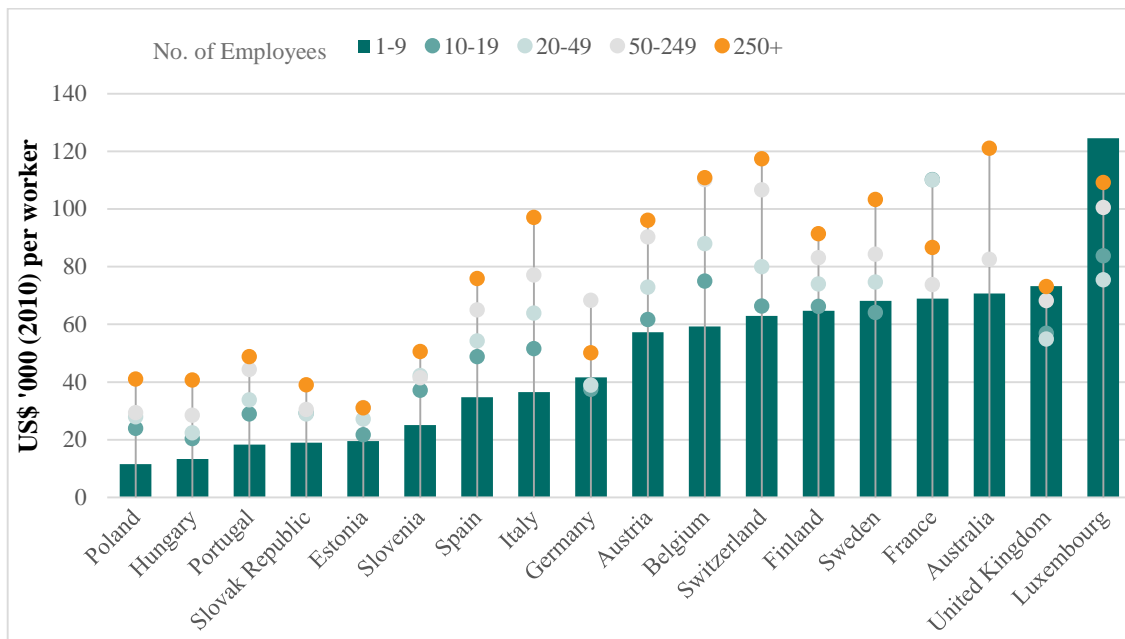
Evidence from developed (i.e. high income) markets shows that productivity enhancements occurs through the reallocation of resources from less efficient to more efficient firms, an effect which becomes stronger over the medium to long-term horizon, but the impact does vary between countries. Of interest 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 reallocation of resources between firms can raise productivity. The research measured dispersals in the marginal product of capital and labour in China and India and uses the USA 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. Moving towards USA levels of efficiency there were estimated gains between 30% and 50% for Chinese firms and 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 USA at 5 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 reallocation of resources to these firms could improve productivity. Evidence from Canada points out 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) points out a potentially positive relationship between worker output (measured as value in US\$ '000) and firm size, as measured by the number of its employees (see figure 3 below).

**Figure 3: Firm size and productivity in selected OECD countries**



Source: OECD (2013)

However, there is also evidence to show that even though larger firms tend to be more productive, there is also a large variation in the strength of the size-productivity relationship, over time, across countries and between sectors (Bartelsman et al. 2013) i.e. in Spain the strength in the relationship between firm size and productivity weakened when comparing the 1994 and 1998 period where 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 – as 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 used of inputs rather than grater 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.

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Further evidence suggests that sectoral composition vis-a-vis size matters since there do not seem to be any efficiency costs associated with small firms (who have more than one worker) but also 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 that a particular enterprise operates in.

Trade participation also plays a role in the re-allocation of resources between firms through a quasi-self-selection 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 i.e. domestic firms that compete with imported goods can actually 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 domestic owned firms can be large – but evidence suggests that ownership (i.e. nationality) is not the determining factor, rather it is the characteristic of the firm i.e. 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 re-allocation from one firm to another), especially through buyouts and result in a change in 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) suggests that different manufacturing plants within firms do not present homogenous levels of productivity (Giri and Teshima, 2013).

Whilst technology levels between firms can impact productivity, innovation and changes in the technology level within firms will also increase productivity. Data from firms in thirteen OECD countries shows that R&D (as well as human capital) is strongly, positively, correlated to increased productivity and is especially important in the productivity catch-up process (Griffith et al. 2000). Similar results are shown that there is TFP growth in industries where there is development in the technological frontier (Dabla-Norris et al. 2015). Evidence on productivity differences between US and UK firms points out 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 focus markets can have an improvement on firm productivity i.e. some evidence from India points out that there are 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

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learning-by-exporting<sup>2</sup> (Mukim, 2011). Evidence from Denmark also provides 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, re-enforces evidence towards 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 in Slovenia (De Loecker, 2012) points to positive productivity impacts whereas in Ethiopia (Siba and Gebreeyesus, 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 i.e. Japanese firms that export to the EU and North America show greater productivity gains than firms that export to Asia (Ito, 2011) whilst 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 a greater degree of 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 by 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 Taiwan electronics firms (Jang et al. 2005), shows that firm product diversification does increase productivity.

A number of studies (i.e. Baily et al. 1992, Bartelsman and Doms 1997, Giri and Teshima 2013) make reference to productivity changes in individual production plants that are a part of a greater firm conglomerate and the fact that where firms have multiple production plants there can be positive productivity-enhancing spillover effects i.e. 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, re-within-firm re-allocation 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 eight percent 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) which 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 are allowed to 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.

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<sup>2</sup> Referring 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.



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Tangentially related is the fact that where firms are located in multiple areas – there is greater managerial decentralisation in the direction of 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 increase productivity by facilitating the reallocation of resources and reduce 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 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 one 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 of competitive advantages) by linking policies (i.e. for agroprocessing) to policies in other sectors (i.e. agriculture) ; sectoral level policies seek to improve operations of all firms within a given sector and firm level policies seek to enhance productivity by targetting factors (i.e. 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 policies interventions into those that support structural change (i.e. nation 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).

**Table 1: Typologies of policies to promote economic transformation**

Action Type	Non-Selective Interventions	Selective Interventions
<i>Public Actions to Support Structural Change</i>	Investment Climate Reforms	Export Push Policies
	Financial Sector Development	Exchange Rate Protection
	Strengthening State-Business Relations	Selective Industrial Policies
		Spatial Industrial Policies
		National Development Banks

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<b>Public Actions to Support within-sector Productivity Growth</b>	Building fundamentals – Infrastructure, skills and institutional capabilities	Management Training  Attracting Foreign Direct Investment
	Investments in Basic Production Knowledge	Export Diversification
	<ul style="list-style-type: none"> <li>• Managerial good practices as public goods</li> <li>• Agricultural innovations</li> </ul>	Developing Global Value Chains  Increasing Agricultural Productivity
	Promoting Competition	

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Source: McMillan, Page and Te Velde (2015)

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’ i.e. each policy is generally co-dependent on the implementation of a suite of other policies to function effectively.

The remainder of the section 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 effects by improving the effectiveness of resources allocation and enhance productivity by removing constraints, or facilitating operations, for firms.

This section will discuss i) Investment Climate Reform, reforms of a country’s investment climate that can have positive effects in the promotion of structural transformation within developing countries; ii) Financial Sector Development; iii) State-Business Relations and iv) industrial Policies

#### 3.2.1 Investment Climate Reform

Investment Climate Reform (ICR), also described as Business Environment Reform (BER), deals with changes in the operational environment that firms operate in, 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) i.e. encouraging firms to experiment and innovate, but also punishing failure. This ties into a number of 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) whilst, 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 climates but evidence point to the fact that, what are considered to be 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 & North Africa (MENA) countries. Cross-country data comparing the size of SME sectors (i.e. the amount of SMEs in an economy), shows that more streamlined taxation and labour regulations leads to a larger number of SMEs within an economy (Rocha, 2013).

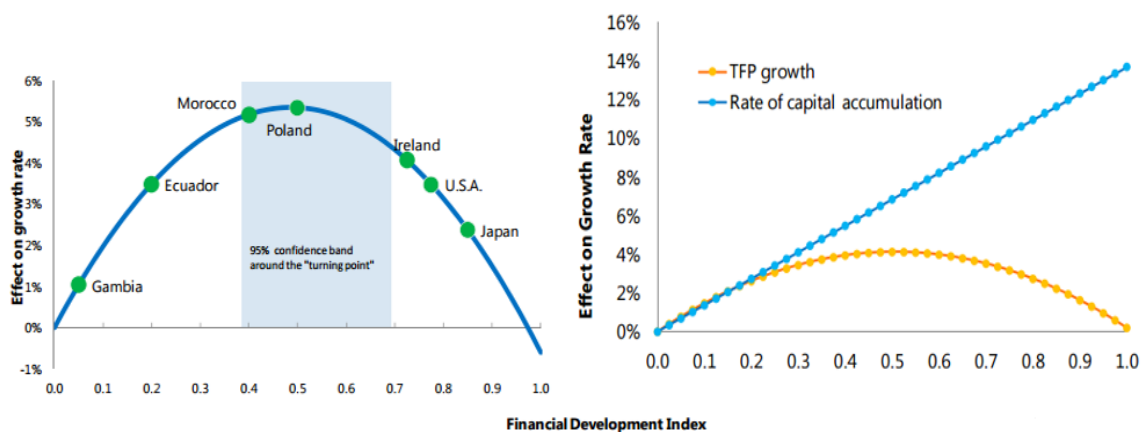
There is, however, limited evidence that there are causal links between improvements in the investment climate and growth in developing countries. Whilst cross-country evidence points to a strong correlation between ICR and growth – there is no established causality between the two, hence it is difficult to pinpoint whether growth leads to better investment climates or vice-versa, nor what the impact channels (in either direction) are (Manuel 2015; Kirkpatrick 2014).

### 3.2.2 Financial Sector Development

Financial sector development is a fundamental driver of productivity enhancement. Figure 4 below highlights how financial deepening impacts growth at different stages of financial deepening (assessed through the Financial Development Index<sup>3</sup>) and how financial deepening is associated with increases in TFP. In both cases deepening has greater beneficial effects (i.e. when the index increases 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).

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 the European firms shows 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 targets financial deepening could have positive productivity benefits.

**Figure 4: Financial Deepening – Impacts on Growth and TFP**



Sahay et al. (2015)

### 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 i.e. chambers of commerce or sectoral organisations) would

<sup>3</sup> As measured in the World Bank’s Global Financial Development Report

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increase firm performance between 37 and 41 per cent. 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 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), where improved levels of social networking (an important aspect of SBRs) between entrepreneurs and the government resulted in more effective resource allocation and improved firm productivity. More broadly, effective SBRs have a positive impact on growth – macroeconomic evidence i.e. in India (Cali, 2010), the Mauritius (Rojid et al. 2010) and Africa (te Velde 2006, Sen and te Velde 2009) all point to positive relations between effective SBRs and growth.

### **3.2.4 Industrial Policy**

Industrial policy, shaped by SBRs, is itself an important component of a number of other productivity enhancing policy processes, including competition and trade enhancement, taxation, labour regulations, sector prioritisation etc. Industrial policy often comes into play side-by-side with, or as an integrated part of, national development strategies (i.e. five year national development plans which are common to a number of both developing and developed countries) and can form the backbone of a longer-time 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 policy<sup>4</sup> 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 re-allocation, from less to more productive firms, may have been hampered (Criscuolo et al. 2007). OECD research shows that taxation policy also has differing effects on productivity with corporate tax negatively affecting productivity whilst tax incentives on RandD positively affecting productivity (Vartia, 2008).

Indian trade liberalisation reforms (in two time periods 1979-80 and 2003-04) have had negative effects on iron and steel manufacturing firm productivity levels (Ray and Pal, 2010). Different effects of similar industrial policy are also shown in the same country i.e. on the one hand, the removal of import quotas in Japan in the 1960's lead to a (time-delayed) increase in firm productivity (Kiyota and Okazaki, 2013) whereas 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 on 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 etc.) hence productivity impacts of industrial policy can neither be assumed nor discounted, but need to take into account 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), 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 – where companies that are faced with exit from the market (i.e. bankruptcy due to enhanced competition) can become

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<sup>4</sup> Aimed at supporting businesses in certain disadvantaged regions in the country

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less risk averse and invest in ‘riskier’ technologies as a method to potentially enhance revenues and avoid firm 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 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 (both enhancing productivity within firms).

What this means is that competition policy actually has impacts on three levels. If applied at the international level (i.e. 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 allows more promotes the survival of more competitive firms within sectors, whilst at the firm level it spurs improved productivity for firms that want to enhance their competitiveness.

There is evidence from the United Kingdom (Nickell, 1996), OECD countries (Nicoletti and Scarpetta, 2003), the EU (Nicodeme and Sauner-Leroy, 2004) and South Africa (Aghion et al. 2007), 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) as well as leading innovator firms to improve their productivity, but potentially hindering the productivity of laggard firms (Aghion et al. 2005, Hashmi, 2011) although improved national patenting processes (which may be seen as anti-competitive) also re-inforce 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, be based on free and fair competition and be 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 a number of 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.
- Particular 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) have allowed developing countries to diversify production (and exports).

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### 3.3.3 FDI and GVC Promotion

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

A number of studies show that there have been positive impacts on firm-level productivity as was the case of Lithuanian manufacturing firms (Javorcik, 2004), manufacturing firms in the UK (Haskel et al. 2002), in the US (Keller and Yeaple, 2008) as well as in the Czech Republic and Latvia (Javorcik, 2008). Broader level 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 i.e. 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, 2008). 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 other important factors such as firm survival rates and profitability (Bloom and Van Reenen, 2007). Data from medium sized firms in the USA and within the EU shows 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 at the group level) as well as non-pay related processes such as appraisal and promotion processes, labour matching (more flexible hiring/firing practices) etc. Although data on the outcome of these practices is 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).

Wage data in a number of high income countries in Europe and the USA (Lazear and Shaw, 2008) do not provide highly conclusive evidence but suggests that where firms have higher levels of wage compression (i.e. a smaller difference between highest and lowest earners within a firm) there are no negative effects on productivity vis-à-vis 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 USA performance related pay has 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 (80<sup>th</sup> percentile) wage dispersion. Cunat and Guadalupe (2009) link pay incentive practices to increases in foreign firm competition – where companies that have greater exposure to foreign competition have greater incentives to implement incentive pay structures, causing greater wage

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inequality within firms and especially between CEOs (Chief Executive Officers) 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 Research and Development (R&D) incentivises (and leads to greater levels of) private R&D – data from six Latin American countries<sup>5</sup> (Crespi and Zuniga, 2010) shows 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 the push (i.e. financing) for ‘basic research’ i.e. research into scientific fundamentals, which is currently underserved by the private sector, but can help push the global productivity frontier and help foster innovation at the firm level (OECD, 2015b).

Comparisons of productivity increases between the implementation of HRM practices and push-for-innovation shows 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. 2010). 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 i.e. greater efficiency of both capital and labour through innovation (OECD 2015; Braconier et al. 2014), rather than through improvements in labour productivity alone.

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<sup>5</sup> Argentina, Chile, Colombia, Costa Rica, Panama and Uruguay



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# 4 Donor Support for Economic Transformation

The 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 Ethiopia context where it has received 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 do not focus on specific donor but rather look at general approaches and, although not the focus of this section, they also provide some evidence where available.

The section divides donor interventions across six broad themes. The first directly looks at the specifics of the Kaizen model and highlights how the approach work. The second theme looks at the Special Economic Zone approach with particular emphasis on the Chinese SEZ model. The third looks at interventions that operate on the local level (i.e. OVOP, Local Economic Development, Clustering and Value Chain approaches etc.). The fourth looks at interventions that target the investment and business climate. The fifth are business development interventions such as Business Development Services and Business Incubators. The sixth is interventions that support industrial and innovation policy, whilst the final theme is access to finance.

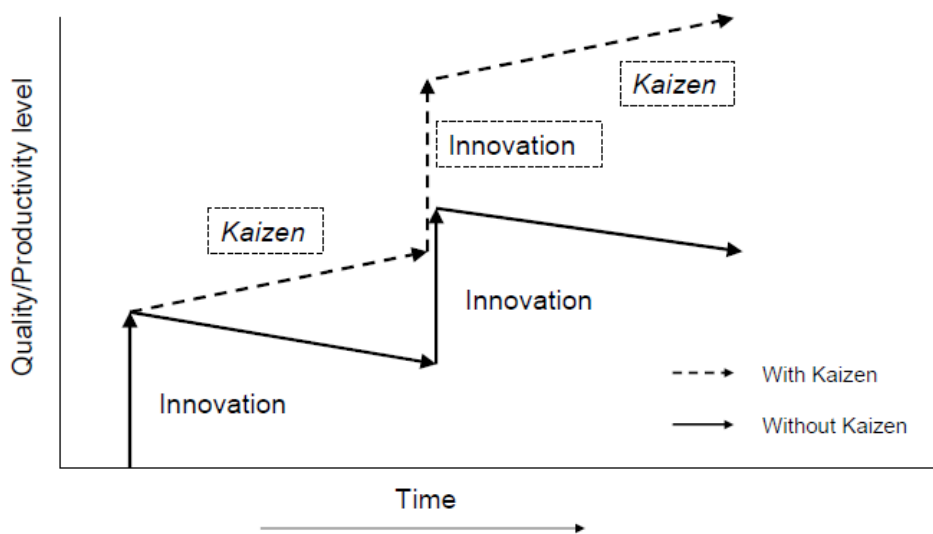
## 4.1 Kaizen

A firm level productivity enhancement process, the Japanese concept of *kaizen*, simply translated means ‘continuous improvement’. Its implementation in manufacturing firms is widely espoused as 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 customers satisfactions (Ohno, 2010; JICA, 2011). The process is company-wide, involving all levels of a firm, from top level management and across 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 7 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 firms 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<sup>6</sup>, waste elimination (*Muda* in Japanese), the implementation of the 5S's<sup>7</sup>, firm/plant layout improvements, reducing setup times for operations, the use of suggestion boxes etc. (Ueda, 2009).

Implementing Kaizen should not require additional investment by participating firms, although it is based on strong commitment by top management and also requires implementation from the bottom-up i.e. 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 agroprocessing, metals, as well as the textiles and leather sub-sectors) services and the public sector<sup>8</sup>.

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 benefitted 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

<sup>6</sup> Essentially 7 simple tools such as cause and effect diagrams, check sheets, control charts etc. used to determine and resolve quality issues.

<sup>7</sup> Japanese terms that translate to Sort, systemize, sweep, standardize and self-discipline

<sup>8</sup> [http://www.jica.go.jp/english/news/field/2013/130529\\_01.html](http://www.jica.go.jp/english/news/field/2013/130529_01.html)

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Productivity Institute) which provides 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 a number of developing countries in Asia and has shown a degree of success which has 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), whereas 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 set-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 who 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. Similarly, the process has also grown to not only use Kaizen for industrial development but also to improve productivity in public services and utility management such as energy or healthcare (Homma, 2014). One example of Kaizen in non-firm related uses 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 PSD 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) 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 Ministry of Industry and Trade. Phase 1 also included the setting up of the Ethiopian Kaizen Institute in 2011.
- **Phase 2** (2011 – 2014) 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 2<sup>nd</sup> phase also included capacity building for the Ethiopian Kaizen Institute Staff.

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

The effects of in-company training, carried out by the Ethiopia Kaizen Institute on participating firms<sup>9</sup> in Ethiopia (Abebe and Zerfu, 2014) show some significant improvements in performance, specifically there were improvements in labour productivity (86% increase), 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 were able to attain an average 'quantitative benefit' of approximately US\$ 30,500 per company by reducing overproduction, reducing the amount of materials used, efficient use of capital and reductions in operating times.

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9 44 SMEs and 13 larger enterprises

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There are a number of issues 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 customized for the Ethiopia context, specifically 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).

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 i.e. to services such as hospitals. Its ease of replicability, but flexibility in adapting to local context, has also promoted its promulgation and has made it a significant player in the context of economic transformation through firm level interactions.

Kaizen is, in essence, about 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 helps 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. Increasing productivity, through 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 into those using the Kaizen process. From a second order effect point of view, there may also be an income 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

SEZs have been, in one form or another, in existence 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 type are the Chinese SEZ's established in the late 1970's resulting, over the last three decades, in the creation of over 2000 SEZ's in China (Farole, 2011). The proliferation of SEZs has resulted in a number of different zone setups included within the definition of the SEZ which now include (Akinci and Crittle, 2008):

- *Free Trade Zones (FTZ)*: Fenced-in, duty free areas which 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 revitalize 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*: Provides incentive, irrespective of location, to individual firms through incentives and privileges
- *Specialized Zones*: Including areas such as technology parks, sectoral specialisation zones, logistics parks and airport based zones etc.

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It is difficult to estimate the number of existing SEZ's, although FIAS numbers (in 2008) point out 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 agencies are involved (to a greater or lesser extent) in SEZ operations including the Asian Development Bank (ADB), the International Labour Organisation, United Nations Industrial Development Organization (UNIDO) and the World Bank, although it is recognised that most individual donors do not have the resources to individually set-up, manage and operate SEZ hence partnerships with local governments are usually undertaken (Farole, 2011).

SEZs operate on various strategic levels – following the framework setup in section 2 – SEZs target all three levels of productivity improvement i.e. 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 (Akinici and Crittle, 2008)

The focus on Chinese SEZs is due to the fact that they are touted as potentially successful variations of the SEZ due to a number of factors. These include the expertise that Chinese officials have had 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 in 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 in technology learning, innovation, firm upgrading and the strong links that they can create with the local economy (Zeng, 2015).

Although none of these factors make Chinese SEZs inherently more likely to succeed than other SEZ, 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 SEZ's have been set up in Egypt, Ethiopia, Zambia, Nigeria and the 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 come as a result of increased trade between China and Africa, including increasing manufacturing trade which has opened the doors for 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 do show that success is not a given, even when following the Chinese model, as most SEZs in Africa have not been able to take act as a force of structural economic transformation (Zeng, 2015). The majority of zones in Africa, when compared to those in other countries, have been less successful with only a few (Kenya, Madagascar, Mauritius and Ghana) have had relative success vis-à-vis 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 as long as the ones outside of Africa (Zeng, 2015). A number of identified 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 environment raising transaction and operational costs for enterprises, even where 'one-stop shops' (i.e. agencies meant to expedite bureaucratic procedures for businesses such as licencing etc.) are implemented.

- No strategic planning behind their set-up, 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. This 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 & Local Economic Development

Cluster development is seen as 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 do not succeed 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 (amongst others) the World Bank, the Asian Development Bank, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), The World Bank and UNIDO.

Clusters are defined as a ‘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 market).

There are a number of ‘naturally’ occurring clusters such in a particular area of California referred to as Silicon Valley due to its large concentration of ICT firms or in 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 which 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 which are its focus on existing clusters, promoting Private Sector Development (PSD) based pro-poor growth 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 a number of clusters i.e. in Ecuador for garment and footwear, in Nicaragua with cocoa, 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 hinges on building up the strengths, based on their social and physical attributes, of local communities (World Bank, 2006). Approaching LED, in reality, requires a mixture of investment in local infrastructure and the implementation of other activities which can have productivity enhancing effects. In terms of infrastructure emphasis should be placed on the development of critical infrastructure such as

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transport facilities and utilities as well as infrastructure that can support activities in particular sectors i.e. irrigation for agriculture, preservation activities and cultural enhancements (i.e. museums) for tourism etc. The approach also requires the implementation of a number of 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 & LED effects on manufacturing firms in Ethiopia has shown that there is a positive relationship between agglomeration of firms and physical productivity (Siba et al. 2014; Gebreeyesus and Mohnen 2011). Similar evidence is found for Vietnamese firms (Howard et al. 2014; 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 & LED approaches are, in terms of their productivity enhancing approach, hybrid systems very similar to SEZs in that they can benefit both inter-firm productivity enhancement as well as intra-firm improvements in productivity. The former by promoting the emergence (and survival) of more productive firms whilst the latter through its productivity enhancing effects thanks to the economies of scope that it promotes.

#### **4.3.2 One Village – One Product (OVOP)**

A non-typical approach to increase productivity as it targets villages rather than sectors or individual firms – hence 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 ‘in unique in the world’, with the theory stating that the uniqueness of these products will protect its price on the global marketplace by reducing market price aggregation pressures which otherwise less differentiated goods i.e. by being unique there is more scope to set the price of the product rather than the product falling into a (lower) global average price band (UNIDO, 2008).

The OVOP approach is used by a number of 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 OVOP scheme should be i) local yet global i.e. should represent a local region but be available globally ii) villages should be allowed to choose what products they will specialise whilst governments and donor agencies should only provide technical assistance and iii) OVOP needs to promote human resource development and skill improvements where it is implemented.

The OVOP approach is also expected to reduce a number of constraints that SMEs face in particular areas such as low labour skills (through training courses), provide advice on technology upgrading and standards adherence, linking local SMEs to international value chains (i.e. 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 both at the vertical and horizontal level. 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, UNDP etc.

Humphrey and Navas-Aleman (2010) describe four types of value-chain intervention undertaken by such donors. The interventions target ‘links’ within the chain which are either the firms that

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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 particular link within a chain is and subsequently focus on resolving issues at the link (i.e. firm) level i.e. upgrading operations of input suppliers to improve outcomes for processors etc.
- 2) *Improving the flows between firms*: Limited knowledge flows between firms and between firms and their markets, can mean 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 have to 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 which maps the links, opportunities and 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 its success.

The impact of value-chain interventions is difficult to measure, mainly due to the qualitative nature of the process which is typically used to measure its success (Humphrey and Navas-Aleman, 2010), therefore limiting the knowledge base vis-à-vis 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 ICR and 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 are cross-sectoral reforms such as the simplification of business processes (i.e. registration) in Nigeria by DFID, business inspection reforms in Uzbekistan by the IFC, enterprise law reforms in Vietnam by the UNDP etc.

Wider ranging programmes can target ‘similar’ (i.e. issue-specific) reform processes across multiple countries i.e. 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 BE/IC’s and BE/IC reforms are measured and compared.



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

The impacts (and scale of impact) of IC 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.

**Table 2: Typologies of ICR/BER Donor Support Programmes**

	<i>Sector Specific</i>	<i>Cross-Sectoral</i>
<i>Country Specific</i>	<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 BSD 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 IC/BE constraints.</p> <p>Can be tied to overarching national reform processes.</p>
<i>Cross-Country</i>	<p>Aimed at particular IC/BE issues such as land or trade reform processes.</p> <p>Leverage cross-country lesson learning and donor expertise in particular fields.</p>	<p>Wide ranging approach tackling multiple IC/BE 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>

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 the UK Department for International Development (DFID), 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** – aka 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.

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- 3) Remove **barriers to entry** for the poor into the market - technological, social, economic or skill based barriers (or a combination of all four), by raising entrance and transaction costs, can stop the inclusion of the poor in markets.
  - 4) **Reduce 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 above four constraints 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 re-allocation of resources towards sub-sectors that provide to underserved (domestic) markets as well as reducing barriers to firm entry into the market such as reducing transaction costs. Although most ‘firms’ that would benefit from the approach are likely to be micro-enterprises, improvements in the business regulatory environment and reduction 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 and are divided between ‘strategic’ and ‘operational’ services. Strategic services are used by firms to improve medium and long term performance within a firm whereas operational services are those that support day-to-day business operations (i.e. 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 (i.e. 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 (i.e. micro enterprises), industries or geographic locations (DANIDA, 2009). In-kind support (i.e. volunteer technical assistance) is also provided by donors (i.e. by DFAT). There has also been a drive to provide support to larger firms in order to implement specific initiatives which may have positive development impact outcomes i.e. 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,

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examples include the UNDP sponsored Business Fights Poverty or 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 provided 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, 2013) highlights there have been positive impacts on firm survival rates in a number of situations i.e. available data shows 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 over 80 developing countries and is geared towards the promotion of technology-centric start-ups. A World Bank review of the infoDev incubators show that they served approximately 20,000 enterprise and created 220,000 jobs.

The contribution of business incubators to productivity enhancement is mainly served through their impacts on firm survival rates. Evidence of their impact, through a cross-country and cross-sectoral review highlights that 50% of firms within an incubator exit the market within the first five years of operation whilst evidence from the US points out 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, 2013).

### **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 number of those already discussed in the paper (i.e. 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 the majority of 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 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 in order to improve competitiveness and allow firms to grow both at the national and at the international level. 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<sup>10</sup>. Support is provided through the creation of an enabling environment – this could include a number of interventions

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<sup>10</sup> <http://www.enterprise-development.org/page/innovation-policy>

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such as providing financial support but these can essentially be broken down into three main processes (GIZ, 2014):

- 1) Support to the four sub-systems of innovation i.e. 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 (i.e. access to 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 (see section above on innovation policy), but the systems to do so can range from national (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 finance which, in-turn, opens up opportunities for productivity enhancing investments. These interventions come in three main strands:

- i) Supporting systemic changes to the financial systems;
- ii) Support through multilateral and bilateral Development Finance Institutions (DFIs);
- iii) Direct support through local financial institutions (including the provision of microcredit).

Systemic changes to financial systems, i.e. financial deepening interventions (of which the productivity implications are discussed in section 3 above) can take on a range of forms. These can include research, policy support and policy implementation. DFID play an important role in such activities i.e. with its involvement in the FinMark initiative which aims to enhance financial inclusion of the poor, setting up 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 has been 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 meant 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 has been established). These investments tend to directly target firms (or a group of firms) that are either based or look to invest in developing countries. The other DFI modus operandi channels funds to FIs in developing countries allowing them to open credit lines to ventures that are considered to be ‘riskier’ such as small or medium enterprises or to firms in sectors that may have been neglected i.e. agribusinesses (Lemma, 2015).

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

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The final approach is direct support to increase credit availability. The World Bank discusses a number of schemes which have been used to improve access to finance (specifically for SMEs) and include 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 i.e. the DFID Financial Sector Deepening Africa programme or 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 on 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 in helping 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 aims to reduce the barriers to access to finance through institutional, legal and regulatory changes at the national level which benefits 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 (FI) lending to small and medium sized firms. Greater access to finance, allows firms to invest more and potentially raise their productivity.

# 5 Comparing Kaizen and other approaches

This section relates Kaizen to other donor approaches vis-à-vis the three processes of productivity enhancement outlined in section two and triangulates these to the different types of policy interventions outlined in section three. 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 difference, where potential synergies exist and what considerations need to be taken into account 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 which 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 below shows the result of the comparison. As the table shows, some interventions target multiple approach levels i.e. the SEZ approach (including all the different uses of the term SEZs) targets interventions at both the individual firm and inter-firm intervention level 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
<b>Kaizen</b>	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 result in greater market share.		-Management Practices -Industrial Policy -Innovation Policy -FDI and GVC Promotion. -State-Business Relations
<b>M4P</b>	Stimulate innovation or pro-poor interventions for individual firms	Challenge Funds (or similar) approaches can benefit particular firm over non-	Reduces barriers to market entry for the smallest firms. Opens underserved markets.	-Investment Climate Reform -Competition Promotion

		participating firms in the sector		
<b>SEZs</b>	Can target individual firms through	Indirectly shifts resources to firms operating in SEZs vis-à-vis those outside of the zone by providing facilitative support and a series of potential competitive advantages.	Specialised parks either thematic (i.e. science or industry focussed) or based around the support of particular sectors. Can be tied to national development/prioritisation plans.	-Industrial Policy -Innovation Policy -FDI and GVC Promotion. -Export Diversification -State-Business Relations
<b>Value Chain Approach</b>	Targeting links (i.e. firm productivity improvements) within value chains to improve the overall efficiency of the whole chain.	May enhance productivity in firms selected chains over firms in similar chains which are not part of the initiative.	Favouring interventions in specific sectors.	-FDI and GVC Promotion. -Industrial Policy
<b>Invest Climate and Business Environment Reform</b>	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.  Remove constraints to firm growth through reforms that target issues within specific sectors.	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.	-Investment Climate Reform -Industrial Policy -Innovation Policy -State-Business Relations -Financial Sector Development
<b>Industrial and Innovation Policy Support</b>	Inclusive of a number of activities that have firm level impacts i.e. BDS	Industrial Policy may target particular categories of firms within a sector (i.e. size or ownership)  Innovation policy can favour more pro-active firms.	Can result in the prioritisation of particular sectors (or sub-sectors)	-Industrial Policy -Innovation Policy -State-Business Relations
<b>Clustering and LED Approaches</b>	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		-Industrial Policy -Innovation Policy
<b>One Village-One Product</b>	Activities can be aimed at improving productive capacity	May shift competitiveness poles into affected areas, negatively impacting		-Export Diversification -Management Practices

	within firms in target areas	firms outside target region.		-Innovation Policy
<b>Business Incubators</b>	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.	-Management Practices  -Innovation Policy
<b>Business Development Services</b>	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.		-Management Practices  -Innovation Policy
<b>Access to Finance</b>	Allows firms to invest, expand and improve productive capacity.		Can open financial flows to sectors which may previously have been underserved.	-Financial Sector Development  -Industrial Policy  -Innovation Policy

What the table highlights is the fact that there is a significant amount of overlap between donor approaches i.e. 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 regards 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 shows that productivity enhancement approaches and the policies that they support, are complex initiatives which often requires 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 ET 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 below) such as Business Development Services, value chain interventions and business incubators.



**Table 4: Kaizen compared to other firm level interventions**

Intervention	Specific Scope	Participation Bias	Tools Used	Positives	Drawbacks
<b>Kaizen</b>	Participating Firms	Self-selection	Specific set of tools (5S's, Muda etc.) that are tailored to individual country constraints.	Does not require additional investments by firms.  Can be sustained through public institutions such as the EKI	Presently Limited participation, but should be scaled up over time.
<b>Business Incubators</b>	Participating Firms within Incubator	Start-up Firms; May also be sector specific	Provides a range of support from access to services up to infrastructure (i.e. 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
<b>Business Development Services</b>	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 (i.e. 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.
<b>Value Chain Interventions</b>	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

What we see from this comparison is that Kaizen fits into a particular space 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 a self-selection bias<sup>11</sup> and whilst it ensures that participating firms are committed to the approach – an important factor in ensuring Kaizen’s success, it limits understanding on whether the process can be successfully applied at greater scale (i.e. through changes in policy or regulation).

<sup>11</sup> 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.

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 it 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, as Kaizen uses a particular, standard set of tools increases the chances of successfully replicating the approach – although the approach and the tools used are flexible enough to ensure that they can be adapted to local contexts, particularly the removal of country-specific constraints to firm operations.

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

Such an approach can also have indirect impacts i.e. 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 BSD 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 means distinguish it from a number of 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 ET considerations that need to be taken into account (see table 5 below).

**Table 5: Kaizen similarities, synergies and ET Considerations**

Donor Intervention	Similarities & Differences with Kaizen	Kaizen Synergies	Potential Economic Transformation Considerations
<b>Access to Finance</b>	-National level approach rather than firm specific level  +Both can target SMEs but Kaizen is direct targeting rather than indirect	-Can help scale up productivity improvements carried out through Kaizen  -Kaizen implementation can be carried out even in the absence of financial instruments	+Opens up productivity enhancement investment opportunities at the national level  -May require specific vehicles to target firm level (i.e. SME) finance
<b>SEZs &amp; LEDs</b>	-Geographic limitations of SEZs & LEDs  +Provide productivity enhancement services to firms	+Kaizen practices can be offered as additional services within SEZs or for firms within the LED zone	-If Kaizen is limited only to SEZ/LED participating firms, exclusion of outside firms could reduce transformative impacts at the sectoral or national level
<b>Firm Clustering</b>	-Focuses on improvements through economies of scale/scope	+Can be used to disseminate Kaizen practices efficiently amongst firms	-Requires successful agglomeration and cooperation amongst firms

			+Can result in sectoral productivity improvements if Kaizen transmission mechanisms are well established
<b>M4P</b>	<p>-Policy approach</p> <p>-Based on Bottom of the Pyramid market uplifting</p> <p>+Challenge fund focus on innovation fits well with Kaizen</p>	+Could potentially be used as part of the M4P package as support to firms	+Can provide greater market demand opportunities for firms to take advantage of
<b>Value Chain Approach</b>	-Only targets firms within the focus value chain, targets can potentially be displaced across several countries	+Can use Kaizen tools to improve productivity in 'weak link' firms	<p>-Should particular value-chains prove to not be commercially viable, impacts would either be lessened or non-existent</p> <p>+Successful Kaizen application could result in invigorated value chains</p>
<b>OVOP</b>	<p>-Village level initiative</p> <p>+Includes firms within the given geographic delineation.</p>	+Kaizen processes can fit into OVOP systems	+Can benefit national or regional productivity enhancements if OVOP is applied to multiple villages
<b>Business Development Services</b>	<p>-Both target firms, although Kaizen is more focussed on productivity enhancement whilst BDSs can provide a whole range of services including</p> <p>-BDS use requires a financial commitment which is not necessary with Kaizen</p>	-Kaizen training can be included in the scope of services offered by BDS firms	<p>-Impact of Kaizen may be limited if only offered on a commercial basis and exclude firms with greater resource constraints</p> <p>-Impacts may also be reduced as successfully commercial firms may have lower incentives to implement the process</p>
<b>Business Incubators</b>	<p>+Firm level intervention</p> <p>-Focussed on start-up firms rather than already existing firms</p>	+Kaizen can be applied to start-up to ensure high production standards from the beginning of a firm's life cycle	<p>+Can potentially shift resource allocation to new firms if their productivity levels are higher than existing firms.</p> <p>-Low firm survival rates can mean wasted resources by targeting start-ups instead of already established firms.</p>
<b>Business Environment &amp;</b>	-Targets policy interventions rather than practical firm solutions	+Reduces external constraints to firm growth	+Can result in national or sectoral level improvements in productivity at all levels

<b>Investment Climate Reforms</b>		whilst Kaizen targets internal inefficiencies	-Requires Kaizen to be scaled up across many firms in order to take advantage of BE/IC reforms
<b>Industrial &amp; Innovation Policy Support</b>	-Policy approach  -Is aimed at all firms within target sectors rather than specific firms  +Can sometimes target individual firms  +Strong focus on innovation, similar to Kaizen	+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	-At scale, Kaizen can help increase productivity and innovation across multiple firms. This can help achieve industrialisation and innovation targets set by Industrial & Innovation Policy processes.

What we see from the comparison above (table 5) is that there are a number of similarities and differences between Kaizen and other donor programmes, however as we have already seen, Kaizen occupies a particular space in the range of implementations.

Kaizen focuses on one key aspect of economic transformation: improving firm level productivity. However, Kaizen complements other approaches that aim at 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 a number of other programmes, including those most similar to it (i.e. as highlighted in table 4 above). The table highlights a number of important aspects that need to be taken into account, in regards to creating strong Economic Transformation impacts:

- Kaizen needs to be able to be scaled and replicable in order 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 i.e. reforms in the business environment or a widening of market demand;
- Replicability could be promoted through business associations or local chambers of commerce which 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 in order 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 a number of 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, due to the fact that they target potentially less productive firms, not be constrained to either particular sector (or sub-sectors) or exclusively offered as a commercial service. It should also not be limited to firms whose survival may be impaired (i.e. 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 both at the sectoral and at the national level nor would they allow Kaizen to target firms which might benefit the most from its usage;

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- 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 a number of donor programmes that focus on agglomerations (such as clustering, SEZs, LEDs etc.) which can increase its adoption rate.

These synergies point out to two main conclusions. The first point is that its modus-operandi should allow it to be integrated across a range of donor approaches which makes it a complementary and not additional process. The second conclusion is the need to scale up Kaizen. This should be carried out in two different ways, the first being 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 Institutes will be of most value) and also across more countries, taking advantage of its strong complementarities to other productivity enhancing programmes.

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