

**FINANCING AFRICAN LOCAL PHARMACEUTICAL PRODUCTION**

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## 1. Background

The Pharmaceutical Manufacturing Plan for Africa (PMPA) recognises the role of the local pharmaceutical industry, as an integral component of health systems strengthening by assuring sustainable local supply of quality, efficacious and affordable medicines.

The industry, contrary to widespread misperception has a long history on the continent dating back at least to the 1930s, implying existence for over eight decades of pharmaceutical technology, managerial and industry capabilities (Macintosh *et al*, 2015). However, in spite of this long history, the industry has not developed to the extent of satisfying continental medicines supply needs. Amongst many factors, finance has been universally identified as a key hurdle to achieving technological capability upgrading and industry development (UNIDO, 2010a; 2010b; 2011a; 2011b).

This policy brief suggests some policy approaches and funding schemes for supporting local manufacture, industrial development and technological capability upgrading. It is based on our research findings which indicate that the prevailing funding challenge is not a simple access to finance issue. There are fundamental financial systems architecture, finance capability, and policy frameworks (finance, industry and health) that need to be coordinated to effectively and sustainably support local manufacture on the continent (Macintosh *et al*, 2015).

## 2. What are the challenges?

It is a well-established fact that finance influences industry genesis, modernisation and development, and there is a close link between a country's financial system and economic growth (King and Levine, 1993). However, the continent's financial systems architecture was not set up to fund industrial development and innovation but to promote commerce and trade. Consequently there is a dearth of sustainable long term funding for industry development, especially affordable long term foreign currency loans critical for importing capital equipment. Reliance by the sector on internally generated funds for importing plant, equipment and machinery does not rapidly generate the critical mass required to meet the continent's medicines needs. Incoherent health, industry and finance policies pose additional operational funding challenges. The questions that we consider in this policy brief are:

1. How can African pharmaceutical firms be sustainably funded to produce safe, efficacious and affordable medicines?
  - a. Who can sustainably fund capital investment, and how?
  - b. Who can sustainably fund working capital requirements, and how?
2. What is the role of local, regional and international financial institutions?
3. What role can innovative procurement as a funding scheme play in supporting local manufacture?
4. How can coherent policy frameworks be crafted to support local pharmaceutical production?

Fundamental issues for the sector are entrepreneurship and supporting innovation, giving rise to the questions: how can African governments support and fund (directly and indirectly) entrepreneurship, industry development, innovation and technological capability upgrading, and how can health and funding systems serve as industrial policy tools to support the aforementioned? The solution requires a supportive financial systems architecture and coherent policy framework. Throwing money at the challenge will not sustainably resolve the intractable hurdles faced by the sector. What needs to be

addressed is finance capability; knowing the what, who, when, how and why of funding and for how long, leveraging a mix of funding and policy tools.

**Table 1:** What is funded, types of funding and possible funders

Project Type	Activity	Type of Funding	Financial Players / Funders
<b>1. Green Field Projects</b>	Plant, Equipment and Machinery Acquisition.	<b>Long Term Funding</b> ( <i>Patient Capital</i> ) - [Bonds, Equity, Debt, Hybrid Instruments]  <b>Medium Term Funding</b> [Bonds, Equity, Debt, Hybrid Instruments]	Development Banks [e.g. AfDB, DBSA, IFC, PTA Bank], Enterprise Development Funds (especially SME funding schemes), Governments, Sovereign Wealth Funds, Insurance Firms, Venture Capital.
<b>2. Expansion Projects (Brown Field)</b>	(a) Product Range Development (including R&D and translational activities)		
	(b) Production Facility Upgrading		
	(c) Local, Regional or WHO GMP qualifications		
	(d) Upgrading Standards		
	(e) New Market Entry		
<b>3. Day to Day Operations</b>	Short Term Working Capital	<b>Short to Medium Term Funding</b> [overdrafts, short term loans, <b>trade finance products</b> (including but not limited to: Letters of Credit, Guarantees, Bid-Performance and Maintenance Bonds)]	Commercial Banks, Continental and Regional Trade Banks [e.g. Afreximbank and PTA Bank], Innovative Procurement by Public Health Systems (supporting industrial development), Trade Credit.
		<b>Trade Credit</b>	Suppliers
		<b>Advance Payments</b>	Innovative procurement by Health Systems
	Core Working Capital	Long Term Funding	Shareholders, Term Funders

Funding capital investment and working capital requirements requires a mix of foreign and local currency. Table 1 illustrates three scenarios: Greenfield projects, expansion projects (Brownfield projects) and day to day operation (working capital requirements), and it shows what needs to be funded, how (type of lending/support) and who funds.

Local currency is required in all three scenarios for acquiring locally available inputs, whereas foreign currency would be required for imported raw materials and capital equipment. Where quality inputs can be obtained locally then this must be encouraged to build and sustain local capabilities.

### **3. What are some of the possible solutions?**

We focus for the purpose of this policy brief on three main actors; governments (including international organisations), financial institutions and pharmaceutical firms, and discuss the role of governments in section 3.1, the role of financial institutions in section 3.2 and need to develop financial capability in section 3.3. We conclude with policy recommendations with section 4.

#### **3.1 Government funding schemes**

##### *3.1.1 Direct capital provision by governments*

Governments can set aside funds specifically targeting the pharmaceutical sector. In 2014 Ghana announced that from the Export Development and Agriculture Investment Fund (EDAIF) Cedis 50 million would be set aside for soft loans to the pharmaceutical sector (approximately USD\$20 million given currency depreciation at time of disbursement) (Smith and Banda, 2016). The government of Nigeria also proposed a Naira 200 billion (roughly USD\$100 million) fund to support the sector, but this has not yet materialised (ibid). Given the few numbers of such initiatives, it implies direct capital provision for many nations may not be viable or of sufficient magnitude and impact to enable the transformation of the industry. Creating a fund of sufficient magnitude to tackle the capital funding gap for a number of firms in different geographic contexts will vary depending on different governments' financial endowment. However, public funding for the pharmaceutical sector demands development of financial capabilities in the public sector, unless fund risk analysis and loan disbursements are managed by financial institutions.

##### *3.1.2 Direct government expenditure to reduce the cost of financing*

Governments can facilitate access to affordable investment capital through subsidizing interest payments. Interest subsidies were made available to Indian pharmaceutical manufacturers to support their development. Using public resources to support the servicing of debt rather than providing the capital itself can be a more efficient use of public resources. However, limitations on the political acceptability of direct transfer of public funds to the private sector, given other pressing demands on public expenditure, may make such a model untenable for many countries (Smith and Banda, 2016). Another indirect way to reduce cost of funding is by creating institutions/mechanisms that underwrite and guarantee credit access by pharmaceutical firms especially for export. Export credit guarantee agencies amongst others are such institutions inferred here. These institutions can assist in attracting more financing avenues to the sector.

##### *3.1.3 Innovative procurement: Local and International Procurement Agencies*

In economic development literature, and in debates on public policies such as defence procurement, there is a long-standing recognition that public procurement can operate as industrial policy to boost emerging technology sectors. 'Buy local' campaigns and local preferences often formed part of import substitution policies. Public procurement creates and enhances markets for new and existing technologies by actively shaping the demand environment. It can promote sustainable consumption and production patterns. Specifically for locally produced medicines, public health system drug procurement can take at least three ways; advance payment, cash on delivery or credit terms, and each of these affect a manufacturers' cash flows, cost of finance and cost of production.

Advance payment and to some extent cash on delivery are a source of finance for the firm or and long credit terms cause producers to seek alternative but expensive external

finance. For example onerous credit terms and conditions of delivery demanded by local health systems on local manufacturers compared to international suppliers force local firms to borrow expensive short term bank finance, generating recurrent cash flow problems (Chataway *et al*, 2016). The cost of bank funding for working capital requirement is generally very high, for example our research revealed that in Zimbabwe in 2011 interest rates charged ranged from 16 to 30% per annum, and the banks short dated lending facilities to increase non-funded revenue streams. Ethiopia however has innovatively solved this challenge. They give advance payment of 30% of tender value to the pharmaceutical firms and assist the firm access the balance from financial institutions at concessionary lending rates (Gebre-Mariam *et al*, 2016). Depending on contexts innovative procurement can be used as an active industrial policy tool to reduce production costs and enhance price competitiveness of locally produced medicines.

### *3.1.4 Cross-sectoral funding: Infrastructure, Institutions and Incentives*

Creating a conducive environment for industry development requires multiple funding and policy interventions across different industry sectors that improve ease of doing business. Indirect funding to the pharmaceutical and other sectors can be done through national investment in infrastructure, institutions and incentives thereby boosting a country's national technological capabilities (Lall, 1992). Investing in infrastructure (water, energy and electricity) as well as building and sustaining strong institutions are critical for supporting local manufacturing, as they reduce investment by firms in alternative infrastructure (e.g. generators). For governance systems, investing in local or regional medicines regulatory agencies and contract research organisations for bio-equivalence testing supports local medicines production and builds technological capabilities along the medicines value chain. The work of NEPAD in harmonising the regulatory environment and ANDI (African Networks for Drugs and Diagnostic Innovation) in building research and development as well as translational activities are initiatives which, if funded adequately and sustainably, can contribute to building strong health governance supporting institutions on the continent.

At a micro-level finance policy can influence the structuring of incentives levelling the playing field between imported medicines and local manufactures. This can be achieved through carefully structured VAT and duty structures, in addition to policies that leverage corporate tax rates and special economic zones, for example. The PMPA Business Plan, regional plans and national strategies identify these opportunities and calls for time-limited incentives (Smith and Banda, 2016).

### **3.2 The role of financial institutions**

Da Rin and Hellman (2002) presented a theory of financial institutions (banks) as catalysts for industrialisation, arguing that banks promote the creation of new industries. Their caveat was the banks needed to be of sufficient large size, enjoying sufficient market power, able to mobilise resources and make profits from coordination processes.

The African financial institutions architecture however is generally not geared to fund industrial development. Financing local pharmaceutical manufacture requires affordable foreign currency long-term loans to import capital equipment, and long term mortgage facilities (mainly local currency) for Greenfield and Brownfield projects. Working capital finance, the domain of commercial banks is characterised by high interest rates and general credit rationing to the pharmaceutical sector (mainly classified as SME). Given the aforementioned, unless there is purposive coordination of funding mechanisms and deepening of financial systems it will be difficult to sustainably finance local medicines

production. In the short term there is a need to coordinate the funding streams of short and long term nature from mortgage financial institutions, commercial and investment banks, other financial institutions (offering hire purchase, lease hire, factoring, and discounting products), national governments as well as the insurance sectors, to support industry development.

### 3.2.1 The need for foreign currency loans

Structured export finance deals for importing capital equipment have been, in our experience, successfully used in developing the mobile telephony when the technology was adopted in Africa in the 1990s, whereas pharmaceutical firms have been forced to bootstrap. Bootstrapping is inefficient and slow in accumulating critical mass for production scale up. However, at regional level there is evidence of banks funding the pharmaceutical sector. Using publicly available data, PTA Bank in Kenya (see Table 2) has funded the sector at least for the last decade. Our research evidence shows that pharmaceutical firms face challenges in knowing where to look for the funds and identifying the right funding product to use (finance capability). At institutional level there is a question of whether the PTA Bank model may be replicated in different geographic contexts?

**Table 2:** Example of foreign currency loans availed to pharmaceutical firms by PTA Bank

<b>Term Loans To African Pharmaceutical Enterprises From PTA Bank</b>			
<b>Year</b>	<b>Recipient</b>	<b>Loan Amount: US\$ Million</b>	<b>Loan Purpose</b>
2005	Kisakye Industries Limited: Uganda	1.67	Procurement and installation of new machinery and equipment, furniture and fittings to manufacture pharmaceutical products in capsule, tablet and liquid form.
2005	Palm Healthcare International Limited: Kenya	1.8	Finance procurement of machinery and equipment for the establishment of a condoms manufacturing plant in Nairobi.
2006	Maria Assumpta Pharmaceuticals Limited: Uganda	2.385	Part finance procurement of machinery, equipment, furniture and fittings for clinical absorbent cotton wool manufacturing plant in Kampala.
2006	Abacaus Parenteral Drugs Limited: Uganda	8.53	Part finance establishment of an ultra-modern blow-fill seal plant to manufacture intravenous fluids and vials for water injections.
2008	SADM Pharmaceuticals Limited: Malawi	2.2125	Importation and installation of new equipment and machinery to complete the rehabilitation and expansion of a pharmaceutical manufacturing factory in Lilongwe.
2012	Varichem Pharmaceuticals Zimbabwe	10	Expansion of existing plant and improvement in production processes.

### **3.3 Building finance capability**

Our research evidence points to lack of finance capability as the reason why firms for example have not to a large extent accessed long term foreign loans and also leveraged supply chain structured-credit financing schemes. Lack of finance capability has been identified as the reason why pharmaceutical firms have not fully exploited opportunities of in-kind finance offered by trade credit to reduce working capital funding costs. If the quality of finance personnel employed by pharmaceutical firms improved their finance capabilities, then funding the sector would progressively improve.

Our research evidence with local commercial banks revealed that they do not understand the local pharmaceutical manufacturing industry, and as a result find the process of risk analysis complex. Secondly because many of the firms are locally owned SMEs and are not subsidiaries of multinational corporates, pricing of risk tends to be higher, and collateral requirements more stringent on borrowing facilities. This is implicit credit rationing to the sector.

There are opportunities for commercial banks, regional and continental financial institutions such as the African Development Bank (AfDB) and Afreximbank to learn from each other by interacting directly with industry and their pharmaceutical industry associations such as FAPMA (Federation of African Pharmaceutical Manufacturers Association) and SAGMA (Southern Africa Generic Manufacturers Association) amongst others in East and West Africa. This interaction can assist in building finance capability in industry and the financial institutions, leading to an informed understanding of the risks involved and appropriate pricing of the risk by financial institutions.

## **4. Conclusions**

We framed the challenge for financing local pharmaceutical manufacture as the challenge of supporting entrepreneurship, industry development, technological capability and innovation. We also argued that the local pharmaceutical industry is an important component of local health systems and critical for sustainable supply of safe, efficacious and quality medicines for the continent, thus contributing to health security and national security especially during pandemics. We suggested a number of ways to finance the sector by governments (direct and indirect funding), innovative procurement, financial institutions and suppliers (trade credit).

Our policy recommendations are that national governments can purposively use as industrial policy tools the following to support entrepreneurship, technological capability upgrading and innovation for such a critical sector for health systems strengthening which also contributes to economic growth and better standards of living:

- i. Direct capital provision by governments
- ii. Direct government expenditure to reduce the cost of financing
- iii. Innovative procurement: Local and International Procurement Agencies supporting local manufacture
- iv. Cross-sectoral funding: Infrastructure, Institutions and Incentives

At policy framework level there is a need to align finance, health and industry policies to develop a coherent strategy that supports the industry. Finance policy can shape financial systems deepening and crafting of time-bound cross-sectoral and sector-specific incentives that support industry development. The health system can use



innovative procurement as an active industrial development policy to support local industry and stimulate innovation that accelerates meeting local health needs.

Financial systems if incentivised and coordinated can provide mortgage finance, working capital finance and, through structured and syndicated finance with regional, continental and international financial institutions, provide long term foreign currency required for capital investment. However this is based on provision of adequate risk mitigation factors, which the policy frameworks discussed above contributes towards.

We conclude that with careful coordination of finance, industry, health policies, as well as government and financial institutions availing finance local pharmaceutical manufacture can be supported to develop.

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