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Foreign Aid in Comparative-Historical Perspective

Newspapers in Kenya rarely report on the local pharmaceutical industry, but in November 2011, the *Nairobi Star* heralded some good news: "ARVs to cost 30 % less as WHO clears manufacturer" (Muchangi 2011). The headline referred to a significant turning point for the country's pharmaceutical sector. Earlier that week, the World Health Organization (WHO) certified that a generic antiretroviral (ARV) drug produced by Universal Corporation Ltd., a locally owned pharmaceutical firm, met WHO's stringent quality requirements. Universal could now participate in tenders (bids) for ARVs paid for by the Global Fund to Fight AIDS, Tuberculosis and Malaria, one of the largest funding sources for ARVs in low-income and lower-middle income countries. Although Universal did not end up participating in Global Fund tenders, meeting the WHO quality standards increased the firm's reputation and resulted in sales to other local and international buyers.

That a locally owned firm in a semi-regulated market developed the capabilities to produce complex generic drugs and to follow strict quality standards was a major achievement.[1] Yet, it is impossible to explain Universal's accomplishment without giving donors and international development agencies their due. These donors and development agencies not only established the drug market that Universal was trying to supply and imposed the quality standards that Universal eventually met, but they also, as we will see, provided the technical support that helped Universal meet those standards. This involvement of

donors and development agencies has been instrumental to Universal's trajectory and to the trajectories of other pharmaceutical firms in Kenya, as well as Tanzania and Uganda.

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For decades, scholars have asked whether foreign aid can effectively support countries' development efforts, with diametrically opposed positions but inconclusive evidence (Wright and Winters 2010). One difficulty in reaching credible conclusions is that the literature often measures aid in terms of its volume. The experience of pharmaceutical firms in East Africa suggests, however, that no less important than "how much aid" is "what kind of aid"—What is aid used for? What conditions are attached to it? What type of guidance is offered in meeting those conditions? Sociology has much to offer in answering these questions and my analysis draws heavily on existing sociological insights on development, the state, and entrepreneurship. In turn, I show that foreign aid, which has been largely ignored by sociologists so far, is an important factor in explaining not only development, but also state practices and local entrepreneurship in recipient countries.

In this book, I identify the kind of foreign aid that could advance development in recipient countries by examining, in particular, the case of local industrial production. Based on the experiences of pharmaceutical firms in Kenya, Tanzania, and Uganda since the 1980s, I argue that foreign aid could support the emergence and upgrading of local industry—including the production of more complex products and the pursuit of higher manufacturing standards—when it provides three resources: markets, monitoring, and mentoring. Donor-funded *markets* create demand and therefore new opportunities that shape local entrepreneurs' decision whether and what to produce; effective *monitoring* of the processes used in production can assure performance, quality, or other standards that help with the upgrading of local manufacturing; and *mentoring*, by way of technical support, provides access to know-how, without which local producers would not be able to meet the requested standards and take advantage of the new markets. In the pharmaceutical sectors in East Africa, when foreign aid could be used to procure local drugs, it created markets that gave local entrepreneurs an incentive to produce the kind of drugs for which donors would pay, spurring local production. When donors imposed exacting quality standards on potential recipients of funds as a condition to access those markets, they gave local drug producers an incentive to improve the quality of their products. And when donors provided technology transfer, they gave local producers the know-how necessary to produce more complex drugs and meet the higher quality standards.

These three resources have much in common with resources provided by a "developmental" or "cohesive-capitalist" state—a state with the capacity and coherence to put in place policies conducive to development (Amsden 1989, Wade 1990, Evans 1995, Kohli 2004). It is therefore appropriate to refer to foreign aid that offers markets, monitoring, and mentoring—and thereby helps create pockets of development—as "developmental foreign aid."

The similarity of the resources that are provided by a developmental state, and that I identify as essential for developmental foreign aid, suggest that state policies and foreign aid are complementary rather than competing resources. Demand for commodities could be created by the state, requirements could be imposed by way of industrial policies or regulations, and technical know-how could be acquired by the state (or by local producers utilizing their own means). Developmental foreign aid is therefore particularly welcome when local opportunities are inadequate, regulations are loose, and technical know-how is lacking. Yet, the *impact* of foreign assistance depends on the local conditions in place, including state capacity and local entrepreneurship.[2] Due to this vulnerability to local conditions, as well as foreign aid's own internal contradictions, I will argue in chapter 9 that foreign aid cannot serve as an alternative, only a complement, to a capable state.

Finally, recipient countries have an important role to play in influencing the forms of foreign aid received. It is through political contestations among donors and recipients *within given opportunity structures* that the "how much" and "what kind" of foreign aid is decided. Poor countries are not passive recipients of foreign aid, but they do bargain in the "shadow of power." The focus on local pharmaceutical production in the 1980s and since the early 2000s was in part the result of developing countries constructing local production of drugs as a priority and choosing to use their limited bargaining leverage in support of that priority. At both times, international support of local pharmaceutical production was possible due to certain contingencies, including the taming of multinational drug companies' potential opposition at a time when developed countries looked for concessions they could offer developing countries.

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Pharmaceutical markets in Kenya, Tanzania and Uganda, were dominated by western pharmaceutical companies from colonial times until the 1990s; since then, they have been dominated by Indian pharmaceutical companies and other importers from the global South (chapter 2 of this book). Nevertheless, local pharmaceutical firms also existed. The experience of local pharmaceutical firms in all three countries included two distinct phases, emergence in the 1980s–1990s and upgrading in the 2000s–2010s. Both phases revealed

the role of foreign aid within a particular local context in these firms' trajectories.

In the 1980s, the revelation of abusive marketing practices of multinational pharmaceutical companies in developing countries at a time when these countries were calling for a New International Economic Order (NIEO) forced for the first time an international interest in access to medicine in poor countries. One initiative launched in response was a ration kits program, a foreign-funded program to procure and distribute drugs in rural areas. In Kenya, the program included a local component, which reserved part of the ration kits market for locally produced drugs. This local component was key for the emergence and early resilience of locally owned firms. Foreign aid clearly contributed to local pharmaceutical manufacturing in this case, but only in collaboration with the state, which funded the local part of the program. The presence of capable entrepreneurs in the pharmaceutical field was also important. These entrepreneurs were mostly Kenyans of Indian descent, whose ties with the United Kingdom (UK) and India (a legacy of the British racialized, colonial rule) gave them access to education and technical know-how not available locally; in turn, their networks at home encouraged spread of that knowledge across the entire sector.[3]

In Tanzania and Uganda, the ration kits programs did not have local components; consequently, the local pharmaceutical sectors that emerged were much smaller and more fragile. Local conditions explain why the Tanzanian sector still did somewhat better than the Ugandan one. Whereas Kenya after independence adopted mostly liberal economic policies, Tanzania from the late 1960s until the mid-1980s adopted development projects based on *Ujamaa*, or African socialism. Even in a socialist context, a number of private entrepreneurs were able to draw on local capital or ties abroad to open drug factories. In Uganda, in contrast, a locally owned pharmaceutical sector was late to develop, in part because President Idi Amin expelled Indians in 1972, thereby targeting precisely those local entrepreneurs who could have had access to technical know-how abroad. After Uganda achieved political stability in 1986, a pharmaceutical sector did emerge, but with weaker ties abroad, the sector was small and vulnerable. (We will see that, partly due to these differences during the emergence period, in Kenya mostly older firms took advantage of the new opportunities in the 2000s, whereas in Tanzania and Uganda newly established companies were more likely to do so.)

By 2000, then, Kenya, Tanzania, and Uganda all had local pharmaceutical firms that produced generic versions of off-patent drugs. Because pharmaceutical firms in East Africa had not caught up with novel technologies or with internationally accepted manufacturing standards, these were basic products, such as painkillers, simple antibiotics, simple antimalarial drugs, and vitamins. Within the next decade, though, some top companies began producing

complex drugs such as ARVs and antimalarial artemisinin-based combination therapies (ACTs), following quality standards that surpassed those required by national regulations.

As in the 1980s, the health-related foreign assistance provided to Kenya, Tanzania, and Uganda starting in the early 2000s was an outcome of the international political-economic conditions of the time. In the face of the AIDS pandemic, struggles between developing and developed countries over an international agreement to tighten intellectual property protection—with multinational pharmaceutical companies proving their willingness to use that agreement to undermine access to AIDS medicine in countries such as South Africa—led rich countries to fund generous drug donation programs. Consequently, the Global Fund and other global health programs were established. The Global Fund has supported a broad range of programs, but a large component of its funding has been given to governments for the procurement of drugs. It was in order to participate in tenders funded by the Global Fund—or to take advantage of other drug markets created by donors—that pharmaceutical companies in Kenya, including Universal, learned to produce new types of drugs. In turn, it was WHO prequalification (PQ) and other quality requirements, which were put in place to counter multinational pharmaceutical companies' warnings of poor-quality manufacturing in the global South, that encouraged Kenyan companies to invest in quality upgrading. The technical know-how Kenyan manufacturers needed to improve quality standards was made available by foreign assistance.

In Tanzania as well, the promise of markets, the setting of quality-assurance conditions, and the provision of technical assistance enticed the larger manufacturers to invest in producing complex, high-quality drugs. In Uganda, in contrast, most pharmaceutical firms were not exposed to the type of foreign-aid incentives and technical assistance that shaped the Kenyan and Tanzanian sectors, and they did not change their practices much. Yet, one Ugandan company, Quality Chemical Industries Ltd. (QCIL), which was partly owned by one of the largest pharmaceutical companies in India and greatly benefited from unprecedented government support, was able to meet the WHO PQ conditions and sell ARVs and ACTs, including to the Global Fund.

In sum, this book shows that foreign aid effectiveness depends not only on how much aid is given, but also on how it is used. Foreign aid is developmental when it complements local conditions—including state capacity and entrepreneurial competence—by way of markets, monitoring, and mentoring. In the rest of the chapter, I develop my arguments regarding developmental foreign aid and the role of local conditions in the emergence and upgrading of a local industrial sector. Following a section on case selection and research design, I conclude with an outline of the individual chapters.

Foreign Aid: The Debate on Effectiveness

The first legal statute dealing expressly with official aid, the Colonial Development Act, was passed by the British Parliament in 1929 (Edwards 2014, 39), but it was the Marshall Plan, and US President Harry Truman's 1949 Four Point Speech, that put forward the idea that aid to poor nations was an important component of foreign policy.[4] Although that principle continued to dominate the logic of foreign aid (Eberstadt 1988, Hook 1995), new ideas and changing interests added novel arguments in favor of aid (Lancaster 2007), and, as I discuss below, shaped the many forms that foreign aid has taken since then—including grants and loans, infrastructure (roads, dams, power plants), technology assistance (including for state capacity building), services (e.g., teachers or doctors), commodities (e.g., drugs), and policies.[5]

Given such a broad scope, foreign aid shares some qualities with welfare benefits and, like welfare, it is a contentious terrain, featured in prominent debates in academic journals, popular books, and op-eds in prestigious newspapers. And foreign aid *should* be debated—the stakes are high, first and foremost for the people in recipient countries who are affected by it. In light of these high stakes, the question of aid effectiveness, in particular, leads to the most contentious debates. Critics lament that foreign aid regularly fails to achieve its goals: aid has not been able to reduce poverty, improve human development (i.e., people's freedoms and opportunities), promote democracy, or bring peace. Worse, critics suggest that foreign aid harms—that it breeds corruption, deters democracy and good governance, and ultimately impedes economic growth and increases inequality.[6] At times, the blame falls on the inability of recipients to absorb even well-intended aid programs due to poor state capacity, lack of human capital, and other local conditions (Riddell 2007). More often, critics consider foreign aid programs to be *inherently* ineffective, either because they are designed by paternalistic technocrats, like economists at the World Bank, who are willfully ignorant of countries' specificities (Easterly 2006, 2014), or because they are designed to benefit the donors, not the recipients (Chang 2002). Aid, as a result, "extend[s] the reach" of foreign governments (cf. Ferguson 1990, Li 2007) and reproduces the relations of imposition and dependence between the global North and the global South (Bornschier, Chase-Dunn, and Rubinson 1978, Wood 1986). The promise constructed by the development discourse—a dream of material prosperity and economic progress—has turned into a nightmare (Escobar 1995).

Advocates of foreign aid counter that aid brings positive results through the strengthening of resources, capabilities, and skills.[7] Collier (2007), for example, found that official assistance has helped accelerate gross domestic product (GDP) growth among the poorest nations in the world by approximately one percent per year. These proponents do not normally downplay the challenge

of inadequate local resources, but they argue that the right response to that challenge should not be minimal use of foreign assistance, as suggested by many skeptics (Easterly 2008, 25). On the contrary, advocates argue that only aid that is "large enough and [is] maintained long enough" could end countries' "poverty trap" (Sachs et al. 2004, Sachs 2015).

Statistical evidence on aid effectiveness has not been able to resolve the debate, because the complex relations between foreign aid and development outcomes makes any such evidence inconclusive.[8] One challenge for studying the impact of aid on economic growth, for example, is that aid providing emergency relief or given during a humanitarian crisis is likely to be negatively associated with growth, because aid would increase sharply exactly at a time when growth dramatically falls (Radelet 2006). Another challenge is that some types of aid might only affect growth after a long period of time, so the relationship between aid and growth is difficult to detect (Radelet, Clemens, and Bhavnani 2004, Radelet 2006). Wright and Winters (2010, 62) informed their readers that, "this research agenda has in many ways stalled amid criticism related to poor identification, self-inflicted endogeneity, and the general limitations of cross-country growth regressions." In regard to the effect of aid on "governance in the aggregate," Krasner and Weinstein (2014, 133) similarly found "strong reasons to believe that the average effect is not very informative." A consensus seems to have emerged that the debate on aid effectiveness will not be resolved through statistical inquiries.[9]

The qualitative literature, in turn, can be useful for assessing the effectiveness of aid. Although the literature on development in sociology and political science has generally ignored the question of foreign aid (e.g., Evans 1979, 1995, Gereffi 1983, Chibber 2003), what we have learned from relevant studies may support Stiglitz's (2002, 5) assessment that foreign aid, "for all its faults, still has brought benefits to millions, often in ways that have almost gone unnoticed." In sociology, the earlier literature on dependency has been critical—viewing foreign aid as negatively as any other form of foreign intervention (Bornschier 1978, Wood 1986). In contrast, the literature on the developmental state has been cautiously positive when discussing the two countries in which foreign (American) aid could not be ignored, given its magnitude—namely, South Korea and Taiwan.[10] In both cases, scholars concluded that foreign aid had positive, although modest and nondeterminant, impacts on the long-term economic growth of these countries.[11] Among the positive outcomes in South Korea, US aid helped build infrastructure, mines, and factories (Amsden and Chu 2003, Kohli 2004, 81) and improved education (Kohli 2004, 77–78); in Taiwan, "the effects of aid may be said to have been felt in perpetuity . . . in terms of a multiplication of civil engineering projects and know-how and improvements in the administrative capability of the Taiwan technocracy" (Amsden 1985, 91, Wade 1990, 83–84).

The impression of positive but "minor" impact (Amsden 1985, 91) improves, moreover, when scholars consider particular sectors rather than the economy as a whole. One illuminating example is the textiles industry in South Korea, which received the lion's share of the foreign aid given to local industries after the Korean War. Aid by way of subsidized loans initially led to excess capacity, but this was resolved in the 1960s with conditioned government subsidies to exports (Amsden 1989, 64–68). Subsequently, cotton textiles became South Korea's major export item (Amsden 1989, 56). Kohli (2004, 77) lists the revival of the South Korean textiles industry as one of the major accomplishments of American aid.[12] Another example is the construction industry. Amsden (1989, 232) has shown that South Korean construction firms, by serving as civilian subcontractors to the American forces, obtained surplus equipment, upgraded the quality of their construction work to meet western specifications, and acquired management and quality-control techniques.

Hence, whereas statistical analyses have failed to reach conclusive results regarding the effect of foreign aid on the economy as a whole, historical studies are able to show clear effects when looking at individual sectors. Also in Kenya, Tanzania, and Uganda, foreign aid had a clear impact on local pharmaceutical companies, independently of the effect foreign aid might have had on development as a whole. Next, I discuss the analytical reasons for looking at industrial production—and pharmaceutical manufacturing more specifically—to study aid effectiveness.

Foreign Aid and the Janus-Faced Pharmaceutical Sector

Most foreign aid, as Radelet (2006, 7) concisely summarizes, is designed to meet one or more of four development objectives: (1) to stimulate economic growth, including through the support of industrial sectors; (2) to strengthen education, health, environmental, or political systems; (3) to provide support, mostly through commodities, during relief operations or humanitarian crises; and (4) to help stabilize an economy following economic shocks. With growing emphasis on individual capabilities and poverty reduction (Sen 2000), western aid has shifted over time away from the objective of economic growth and it is more likely to focus on social issues (i.e., social services, food aid, humanitarian assistance, and poverty alleviation) and political concerns (i.e., democracy, governance, and human rights). Of the eight Millennium Development Goals (MDGs) declared at the United Nations Millennium Summit in 2000, only one refers to the economic realm ("develop a global partnership for development").[13] Funding followed the same logic. For example, in Tanzania, in 1991, "industry" received 24.8 percent of total external assistance disbursements, whereas "health" and "social development" together made up only 11.5 percent

of the total.[14] In 2015, in contrast, the $950 million distributed for "social infrastructure" (including health) and "humanitarian assistance" in Tanzania far exceeded the combined sums devoted to "economic infrastructure" ($260 million) and "production" ($150 million).[15]

Prioritization of the social and political over the economic is now changing again, however. Renewed attention to economic issues can be detected, for example, by the greater emphasis on such concerns in the United Nations' (UN) 2015 Sustainable Development Goals (SDGs). The seventeen SDGs make three explicit references to economic issues, including: "Build resilient infrastructure, promote sustainable industrialization, and foster innovation."[16] In addition, new donors from East Asia, especially Japan and South Korea, emphasize economic infrastructure and production facilities in their aid to African countries.[17] Concurrently, in response to the emphasis on individual capabilities, development economists have found it important to reiterate the critical role of *productive* capabilities, which allow for the "transformation in productive structure" and are therefore indispensable for economic development (Andreoni and Chang 2016).

Given this revived interest in utilizing aid in the service of industrial production, it is important to evaluate the conditions under which aid could be effective in that specific realm. (In chapter 9, I will argue that the lessons learned from looking at aid for industrial production could apply to other spheres of aid as well, including the provision of services.) The pharmaceutical sector, in turn, has two qualities that make it particularly suitable to study, given today's challenges of aid in the economic realm.

First, the pharmaceutical sector is a particularly interesting area for looking at both the emergence and upgrading of an industrial sector. As mentioned above, when the US provided aid to South Korea, a major beneficiary was the textiles industry—one of a few consumer-goods industries that developing countries were able to grow through labor-intensive functions of relatively low knowledge intensity. The manufacturing of medicine can in some cases be similarly quite simple but in other cases it can be technologically complex; so studying this sector can shed light on the effect of foreign aid on simple manufacturing, *as well as* on the possibility of climbing up the commodity chain through technical upgrading or even innovation.[18]

Second, the pharmaceutical sector is analytically interesting for reasons that go beyond industrial production *per se*, given that local pharmaceutical production may improve access to affordable medicine and therefore the health situation in the country where it is produced. Aid in support of pharmaceutical production may therefore allow foreign aid aimed at an industrial sector to serve not only economic, but also social objectives, including those declared in the MDGs and SDGs regarding improved access to medicine to fight AIDS, tuberculosis, and malaria. Certainly, supporters of local pharmaceutical production

utilized assertions that local production would help improve access to medicine. It is notable, however, that the potential effect of local pharmaceutical production on access to medicine was a double-edged sword because it was at times used to criticize investment in local production, given credible analyses that local production could make drugs costlier than simply importing them from India, for example (Kaplan and Laing 2005). Indeed, justifications for local production in the 2000s focused less on the promise of industrial growth or on the promise of improved access to medicine and more on the need for self-sufficiency. Studying the pharmaceutical industry therefore also gives us an opportunity to analyze the potential tensions between aid for economic development on the one hand and aid for social development on the other—including in regard to the selection of the pharmaceutical sector as a suitable target for aid in the first place, which I discuss in the next section.

Origins of Developmental Foreign Aid: Bargaining in the Shadow of Power

One assumption often underscored by scholars of foreign aid is that priorities are set by donors rather than recipients (Lancaster 2007). Critics, in particular, are quick to make that claim. For example, the donation of medicine, including ARVs, is often seen as reflecting donors' preference for technological solutions that benefit multinational pharmaceutical companies. Similarly, stringent international quality standards can be seen as a protectionist tool against competition from pharmaceutical companies in developing countries. Scholars recognize, more generally, that foreign aid creates power dynamics that constrain the recipient's action. Given donors' interest in AIDS and malaria treatment, for example, it is difficult for developing countries *not* to prioritize these over other health programs. In regard to the examples above, however, the overwhelming focus on drug donations becomes more difficult to explain once we learn that many of the donated drugs are produced in India, not in the United States (US) or Europe. Support of local pharmaceutical production is similarly puzzling, given the minimal interest in industrial production as a legitimate goal for foreign aid—and the likely opposition of western pharmaceutical companies.

From an analytical perspective, moreover, unreflectively assuming that foreign aid interventions are designed to serve donors' interests runs the risk of overlooking developing countries' active involvement in constructing those interventions.[19] We need instead to investigate the political-economic context in which the preferences of both donors and recipients are constructed. (This is not to imply that countries have unified needs or interests. Rather, clashing political, economic, and other interests are involved. So even when aid

priorities are informed by the recipient, it does not mean that these priorities reflect those of the country as a whole.) I argue that aid, not unlike other types of global norms and regulations, emerges through political contestations. In these political contestations, parties are hardly equal—bargaining occurs in the shadow of power.[20] Still, those in the periphery can gain concessions by constructing priorities and choosing battles based on the opportunity structures in place. Hence, even countries with minimal bargaining leverage are not necessarily passive recipients of gifts bestowed on them; rather, they are active manipulators of opportunities when these exist.

Support of local pharmaceutical production in the 1980s and again in the early 2000s was constructed under surprisingly similar political circumstances. At both times, an interest in the production of drugs might not have emerged as a central concern but for the fact that certain events in the course of contentious international negotiations over broader issues created an opportunity for that concern to be addressed. At both times, the opportunity was created by a temporary "taming" of multinational pharmaceutical companies that weakened the impact of their likely opposition.

In the 1980s, at the same time that developing countries were mobilized in support of a NIEO (Chorev 2012b), the revelation of unethical marketing and abusive pricing practices of multinational pharmaceutical companies in poor countries momentarily weakened the political influence of these companies. The scathing exposures were then used to justify reform of pharmaceutical markets, including through the rationalization of procurement and distribution of drugs in developing countries, but also by making local drug production into an industrial priority—using the argument that this was the most effective way to address developing countries' vulnerabilities to the abuse of multinational pharmaceutical companies.

International support of local pharmaceutical production in the early 2000s was similarly an outcome of opportunities in the context of broader developments that weakened the opposition of multinational pharmaceutical companies at a time that developed countries looked for concessions they could offer to developing countries. The trigger was *not* the catastrophic HIV/AIDS pandemic *per se*, but the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which was negotiated in the course of establishing the World Trade Organization (WTO) and was designed on behalf of multinational companies, including pharmaceutical firms (Sell 2003). TRIPS, which was signed in 1994, required all WTO members to adopt and enforce high minimum standards of intellectual property protection (Sell 2003, Kapczynski 2009, Löfgren and Williams 2013). Countries with loose intellectual property laws, which allowed the development of a thriving generic pharmaceutical sector, as was the case in India (chapter 2), now had to enforce much more stringent patent laws.

The TRIPS agreement contained provisions describing a number of permissible exceptions, or flexibilities, to the protection of intellectual property rights. Concern that TRIPS would limit access to affordable generic drugs, including anti-AIDS drugs, led a number of developing countries, including South Africa, to pass intellectual property laws with explicit references to the controversial exceptions. When multinational pharmaceutical companies tried to challenge the new law in South Africa, the global public outcry against "suing Nelson Mandela" made the multinationals withdraw the case (Chorev 2012a, 842). This "public relations disaster," combined with effective activist mobilization at the global level, put advocates of strict intellectual property rights on the defensive and made developed countries seek ways to pacify poor countries, specifically by demonstrating that TRIPS would not have an effect on access to anti-AIDS and other needed drugs. Hence, in addition to concessions regarding flexibilities, rich countries began to donate unprecedented sums to fight AIDS, as well as tuberculosis and malaria (Chorev 2012a), and they started to actively support local pharmaceutical production.

In short, foreign aid in support of local pharmaceutical production has been the outcome of developing countries constructing priorities and fighting for them given the political opportunities in place. In the next section, I describe the features that made this type of foreign aid "developmental."

What Makes Foreign Aid "Developmental"?: Markets, Monitoring, and Mentoring

Foreign aid is commonly measured in terms of volume, and aid effectiveness is inferred if more aid is correlated with, for example, greater economic growth. But at least as consequential as how much aid is the question of what *kind* of aid is given and how is it *used*, so when measuring foreign aid only in terms of volume, much of what could make aid effective is lost. More promising than studies that find a positive, negative, or no relationship at all between aid and development are studies that claim a *conditional* relationship between the two. These studies look at the characteristics of recipient countries (e.g., having "good policies"), of donors (e.g., whether aid is bilateral or multilateral), and at the type of activity that the aid supports (e.g., humanitarian aid vs. aid aimed at affecting growth) (Radelet 2006, 10–11). But even that literature falls short of identifying the *kind* of interventions that would allow aid to support development.

When it comes to proposing actual policies, the issue of "what kind" is addressed more explicitly. Skeptics like William Easterly (2008, 25) insist that the only cost-effective interventions are modest ones that directly "make people's lives better." Examples include vaccination, urban water provision, indoor spraying to control malaria, and fertilizer subsidies. An agreeable form of foreign aid, then, involves relatively cheap interventions that have an

unmediated and immediate impact on individuals' well-being. These programs should also, to the extent possible, bypass local actors, especially the government. Aid for productive activities is out of the question. Jeffrey Sachs's support of large-scale aid projects is directly opposed to Easterly's, and his list of "bold measures" even leaves room for industrial development. However, Sachs and his collaborators also fail to systematically investigate what kind of aid could be effective and refer, instead, to generic policies such as the provision of export processing zones and industrial parks, tax concessions, and infrastructure. The reference to these policies reflects a relatively hands-off approach to economic growth and pays rudimentary attention to insights from the literature on development (Sachs et al. 2004, Sachs 2014).

The experience of local pharmaceutical producers in East Africa challenges both Easterly's and Sachs's conclusions—and offers a new way of thinking about foreign aid. I argue that similar tools to the ones utilized by a developmental state to promote industrial production as a whole could be provided through foreign aid to advance a specific sector in an otherwise nondevelopmental context. Drawing on insights developed by the economist Alice Amsden (1989), I identify three types of interventions that make foreign aid instrumental in the emergence and upgrading of industrial production: creating markets as incentives to produce; imposing monitorable conditions that improve production practices; and providing access to technical know-how through mentoring.[21]

MARKETS

According to Amsden (1989, 143), "The first industrial revolution [in Britain] was built on *laissez-faire*, the second [in Germany and the US] on infant industry protection. In late industrialization the foundation is subsidy." Infant industry protection was provided in many industrializing countries based on the understanding that new industries cannot develop without state support—including tariffs, import prohibitions, and investment restrictions—that would limit competition with imports or foreign subsidiaries (Evans 1995, Chang 2002, 3, Rodrik 2008). These protectionist policies were often designed to create a "market reserve" (Evans 1995, 117) for local producers—so they could develop without having to compete too early with established producers.

Foreign aid agencies do not normally have the means available to governments to protect infant industries. Yet, donors can create markets. The provision of commodities by aid agencies often comes in the form of (imported) in-kind donations or in the form of funds earmarked for the purchase of those commodities. In the latter case, donations are often "tied" or for other reasons rely exclusively on imported goods. In such cases, donations are unlikely to benefit local producers. When donations can be used for the procurement of locally produced commodities, however, the availability of these funds offers

incentives for local producers to invest in the production of such goods, even if these commodities are more complex or in other ways extend local firms' existing range of products. By creating markets, then, foreign aid can generate conditions that serve a similar function to protectionist measures—namely, providing incentives for local entrepreneurs to produce. Foreign aid may not protect local industries from international competition, but it gives local firms an opportunity to compete in a market that would not have existed otherwise.

In East Africa, foreign aid in the form of markets helped trigger drug production first of simple and then of more complex drugs. In Kenya in the 1980s, in the context of an otherwise very small drug market, the ration kits program, which was designed and funded by development agencies, included government-funded tenders reserved for local producers. This reserved market proved key to the emergence and early resilience of the pharmaceutical sector in the country.[22] No local component was included in the ration kits programs in Tanzania and Uganda, both of which subsequently saw the rise of smaller and more fragile pharmaceutical sectors. When donors made funds available for the procurement of ARVs and ACTs after 2000 without a priori excluding locally made drugs, and even though these donor-funded markets were not normally reserved for local producers, the *possibility* of a market was sufficient to encourage some local pharmaceutical producers to produce these new drugs.

MONITORING

Infant industry protection risks creating an industry incapable of becoming internationally competitive. Amsden's most innovative insight was that later industrializers were able to prevent such stagnation by the use of *conditioned* subsidies (Amsden 1989, 145). Subsidies were no longer free; rather, "in direct exchange for subsidies, the state exacts certain performance standards from firms," such as meeting export targets (Amsden 1989, 146, Amsden 2001).

Amsden's insight that conditions could alter the behavior of recipients of state subsidies is key to understanding the success of developmental states. I suggest that it should similarly be key to understanding effective foreign aid. Like state support, foreign assistance effectiveness depends on the ability to make recipients meet certain standards. Importantly, the conditions I refer to here are not the same as tied aid or the "conditionalities" that were attached to structural adjustment loans from the World Bank and the International Monetary Fund (Radelet 2006, 13), which involve demands *unrelated* to the effective use of the loans. Rather, here the emphasis is on *performance* and other standards that relate directly to how the funds are used.

In the pharmaceutical sector, standards often focus on quality because the harm from consuming substandard drugs could be significant. In developing countries, the standards required by the government are often lower than

the Good Manufacturing Practices (GMP) recommended by the WHO, and enforcement is often lax (Losse, Schneider, and Spennemann 2007). In that context, a monitoring mechanism created by foreign aid had a major impact on the quality of locally produced drugs in Kenya, Tanzania, and Uganda. In the 1980s, the procurement of drugs for the local ration kits did not have conditions attached, and the ration kits program had no impact on the quality standards followed by local pharmaceutical firms. But when donors in the 2000s opened their tenders to local producers, it was under the condition of meeting WHO GMP requirements. As a result, some local producers in East Africa pursued quality standards beyond the level that their respective governments enforced. In short, just as the promise of markets provided an incentive to produce drugs, monitoring provided an incentive to produce *good* (quality-assured) drugs.

This is a case of a weak disciplinary mechanism, however. Rodrik (2008, 28) observes that "sticks" are not only about encouraging investment in productive directions, but also about "weed[ing] out projects and investments that fail." Because international monitoring is voluntary, it has no ability to "weed out" projects. Moreover, because the condition of quality applies to the product, rather than to the performance, improved competitiveness is not an inevitable outcome. The implications are nonetheless significant—a *conditioned* foreign aid, namely, foreign aid that uses requirements to assure quality standards, helped improve production practices of an industry in semi-regulated countries.

MENTORING

Lall (1992, 112) reminds us that "incentives are not the only part of the story. The ability of firms to respond to incentives depends on their initial base of capabilities and their access to skills within the economy." Amsden (1986, 253) similarly notes that "unlike many natural resources, skills do not grow on trees. Nor, unlike capital, are they easily imported." Rather, they require "a combination of formal education (although not always) and experience," both of which are scarce in developing countries. One of Amsden's (1989) arguments regarding later industrializers, including South Korea and Taiwan, is that, rather than generating new products or processes, they industrialized through *learning*. They developed skills—including technical and market capabilities—by "borrowing" knowledge from elsewhere (Whittaker et al. 2010, 445), through formal learning as well as through licensing and reverse engineering (Amsden 1989).[23] Reliance on borrowed knowledge explains why entrepreneurs in developing countries have often been immigrants who arrived with education or experience (Kohli 2004, 151) or locals who had been working abroad (Saxenian and Hsu 2001; ÓRiain 2004b). Knowledge could also be acquired by hiring foreign consultants (Amsden 1989; Mehri 2015) or, less formally,

through commercial channels, such as suppliers of capital goods (Amsden 1989, 233–34; Romer 1993).

I argue that learning can occur—and knowledge can be "borrowed"—with the help of foreign aid. Amsden's analysis of the construction sector in South Korea mentioned above is one example of the success of mentoring. Pharmaceutical production in East Africa is another. Pharmacy schools opened in Kenya and Tanzania only in 1974, and in Uganda in 1988, and these schools did not provide adequate training in industrial pharmacy and were therefore not able to address the severe shortage of qualified technical personnel (Wangwe et al. 2014). Hence, the know-how required for the production of new drugs or for maintaining high quality standards was not available locally. Some local entrepreneurs found private means to access technical know-how that was available only abroad, as I describe below. In addition, technical know-how in the field of pharmaceutical production was provided through foreign aid. In the 1980s, donors provided technology transfer mostly to state-owned companies. After 2000, development agencies offered technical support to privately owned local pharmaceutical companies, with the help of which these companies learned how to produce new types of drugs and follow high quality standards.

In short, commercial opportunities, conditions attached to those opportunities, and guidance provided to help meet those conditions hold the key to foreign aid's impact on industrial production. In East Africa, the promise of new markets generated interest in the production of new drugs, monitoring provided an incentive to produce quality-assured drugs, and mentoring provided the needed know-how.

Foreign Aid and Local Capabilities

The experience of the pharmaceutical sectors in East Africa led me to conclusions that significantly differ from those usually debated in the literature on foreign aid. Yes, aid can be effective, but its effectiveness depends on what opportunities it creates, what conditions are attached to those opportunities, and with what guidance aid is given. My argument, then, is explicitly sensitive to variations in the type of aid interventions. My analysis is also sensitive to variations in the local context, which, at times, the literature on foreign aid is not. For example, Easterly (2014) certainly considers local conditions, but he implies that local characteristics are equally distorting in all recipient countries. I recognize contradictions and distortions, which I discuss in chapter 9, but show that countries with "good enough governance" (Grindle 2004) and other local capabilities can avoid what Easterly believes is inevitable. Sachs and his collaborators (2004) seem confident that domestic challenges can be successfully addressed. However, we know that local conditions are decisive in shaping the nature and meaning of international interventions, and we know

that the local context differs significantly across countries and over time.[24] We should expect, then, that depending on local conditions, the same type of foreign aid would yield different results. (Depending on local conditions, countries may also receive a different kind of foreign aid.) Hence, in addition to asking what makes foreign aid effective, we need to ask what local conditions allow foreign aid to be effectively utilized.

As mentioned earlier, a number of studies do look at how local conditions shape foreign aid effectiveness (Wright and Winters 2010, Matsuzawa 2016). Some suggest, for example, that aid "works better" in countries with "good" institutions and "good" policies (Radelet 2006, 11).[25] Others have argued that the higher the level of human capital or social capital, the more the same amount of aid can "contribute" (Kosack and Tobin 2006, 205; see also, Hout 2002, Baliamoune-Lutz and Mavrotas 2009). Indeed, the experiences of pharmaceutical manufacturing in Kenya, Tanzania, and Uganda show that developmental foreign aid may compensate for inadequate commercial opportunities, loose regulations, *and* lack of technical know-how. At other times, aid can *complement* extant local possibilities, for example, when demand for commodities is created by the state, or when requirements are imposed through industrial policies or regulations, or when technical know-how is acquired by the state or by local entrepreneurs through their own means.

Local conditions, in addition, shape the impact of foreign aid. Here, again, state and private entrepreneurs play important roles. First, foreign aid effectiveness often depends on the capabilities of the relevant state agencies. (This is compatible with what those who are skeptical of the effectiveness of foreign aid would predict. Unlike these skeptics, however, I argue in chapter 9 that donors should invest in state capacity building rather than in looking for ways to bypass the state).[26] Second, foreign aid effectiveness also often depends on the presence of entrepreneurs who can respond to incentives, conditions, and training.

THE STATE

As Evans (1995, 10) notes, "State involvement [in development] must be taken as one of the sociopolitical determinants of what niche a country ends up occupying in the international division of labor." The literature on the developmental state identified both the institutional features making a state conducive to development, including bureaucratic coherence and administrative capacity, and the tasks such a state may take on, for example, a judicious mix of import substitution and export promotion (Amsden 1989, Wade 1990, Evans 1995, Chibber 2003). Later, scholars identified a different set of tasks, more appropriate for a neo-developmental state in an era of globally fragmented production, including stimulating venture capital investment, creating innovation centers,

providing research and development funding, and fostering international networks (ÓRiain 2004a, Breznitz 2007).

Kenya, Tanzania, and Uganda are neither developmental nor neo-developmental states. None of these countries had state capacity or coherence to pursue comprehensive industrial policies. Still, as Evans (1995, 10) reminds us: "State involvement is a given. The appropriate question is not 'how much' but 'what kind.'" State involvement in Kenya, Tanzania, and Uganda included, to a varying degree, an investment in local pharmaceutical production. In the 1980s, all three countries established state-owned pharmaceutical manufacturing facilities, although only Kenya funded a component of the ration kits program that was reserved for local producers and introduced other protectionist policies that contributed to the successful emergence of the sector in the country. In the 2000s, the only pharmaceutical firm in Uganda that took advantage of foreign aid, QCIL, was generously supported by the Ugandan government. All three governments—with foreign insistence and assistance—introduced regulations to monitor quality assurance of drugs in the 1990s, but Tanzania enforced these rules on local manufacturers more strictly than the other two governments, and thereby more effectively discouraged firms with particularly poor quality standards.

Local Entrepreneurship and Foreign Investment

Industrialization that relies on the private sector requires not only a competent state, but also experienced entrepreneurs (Kohli 2004, 3). The scholarship on the developmental state asserts that entrepreneurship is a condition that the state can help create (Evans 1995, 13). However, all the successfully industrialized countries examined in these studies were countries with an existing availability of competent entrepreneurs, thereby bypassing the question of the "missing entrepreneur"—whether development is likely when a country is not already endowed with experienced private actors (Kohli 2004, 341).[27] What we cannot assume—and what the literature on the developmental state at times implies—is that entrepreneurs emerge organically in response to market opportunities or effective policies (Burt 1992, 34). Rather, becoming an entrepreneur requires available funds or credit, as well as access to technical and managerial know-how, most often through education or experience (Amsden 1986, 253).

Kenya, Tanzania, and Uganda did not have ready-made entrepreneurs, certainly not in the pharmaceutical sector, where specialized know-how is required. Although the situation has improved over time, local capabilities have not caught up with the expanding requirements for capital, technology, and skills. Who, then, were the entrepreneurs who opened pharmaceutical factories and, when available, took advantage of opportunities offered by foreign aid? I suggest that Mark Granovetter's insight regarding inter-local connections applies to transnational connections as well: "The ability to call on

personalized contacts over a wide geographic area affords considerable advantage in smoothing backward and forward transactions. There are information advantages as well" (Granovetter 1995, 151, emphasis added). Where access to technical know-how is not available locally, entrepreneurs are more likely to come from the ranks of those who have ties abroad.

Indeed, the scholarship on developmental and neo-developmental states offers numerous examples of the developmental role of ties abroad when lack of local skills requires entrepreneurs to borrow knowledge from "elsewhere," as discussed above. And unlike the image of a fully informed, rational global market, in which commercial transactions require no social foundation, entrepreneurs often need to rely on existing informal ties to import needed raw materials or machines, to get jobs abroad where they can gain the necessary experience, or to hire skilled employees from abroad. Even establishing formal commercial relations such as joint ventures often relies on existing informal ties.

During colonialism and after independence, Africans did not generally have ties abroad, but a racialized colonial order and its legacy meant that East Africans of Indian origin did. It is important to distinguish this argument, which focuses on the *structural* characteristics of groups, from arguments that focus on cultural or other essentialist traits (Portes and Zhou 1992).[28] The position of Indians in the racialized social and economic order under colonialism—the one that brought many of them to East Africa in the first place and the one that, in East Africa, provided differentiated educational and economic opportunities to Africans, Indians, and Europeans—enabled them to dominate the region's commercial and industrial sectors after independence (Swainson 1977, Barker et al. 1986). In turn, the development of a flourishing pharmaceutical sector in India—itself a reflection of both domestic and global political-economic processes (chapter 2)—channeled Indians in East Africa into local pharmaceutical production. Specifically, East Africans of Indian origin, especially in Kenya, attended pharmacy schools in the UK or in India when there was not yet a pharmacy school in the region; they got jobs with multinational pharmaceutical companies; and they relied on acquaintances in India to "smooth transactions" for purchasing machines and raw materials. Technical know-how was transferred through informal conversations with suppliers of drugs or raw materials from India; later, East Africans of Indian origin also had an easier time hiring short-term consultants or permanent employees, again from India. In contrast, entrepreneurs without ties abroad (or without political ties at home, as we will see) were often the ones who opened the smaller and less resilient firms.

Over time, pharmaceutical firms in Kenya, Tanzania, and Uganda that were owned by private entrepreneurs and operated as a family business were joined by (or turned into) companies relying on salaried professionals (cf. Amsden 1989, v). In addition, there was a shift from relying on the type of informal, personal ties described above to creating formal, for-profit ties in

the form of foreign direct investment (FDI). The literature on development has long debated the traits of foreign-owned companies compared to local firms—but also whether we should expect any differences at all between the two.[29] The pharmaceutical sectors in East Africa remind us of the important advantages foreign companies have over local ones. Although local investors may derive "competitive advantages from local knowledge, experience, and social and political capital in their homelands" (Schrank 2008, 2)—one example is local companies' dominance of the drug market in rural areas (Mujinja et al. 2014)—companies owned by multinational pharmaceutical companies have the advantage of easier access to finance and to technical know-how. Significantly, this changed in important ways the companies' relationship to opportunities and incentives, including those offered by foreign aid. Companies owned by multinational pharmaceutical companies were less likely than local companies to be responsive to foreign assistance, as I also discuss in chapter 9.

In addition to ties abroad, entrepreneurs benefit from the diffusion of information through *local* networks across the industry.[30] Among pharmaceutical manufacturers in East Africa, the strength of local networks depended on the presence of common business interests (manufacturers who did not engage in importation of drugs had different interests than manufacturers who did); common concerns (likely among manufacturers with similarly sized enterprises or similar levels of technical sophistication); educational and professional background (when entrepreneurs were also pharmacists); geographical proximity (given the poor infrastructure and challenging business environment in East Africa, physical proximity made it easier to meet); and, importantly, social (nonmarket-based) ties.

The scholarship on middleman minorities, which looks at the social structure of ethnic communities to explain their success in certain occupations, is useful for understanding how social ties matter, and why they are likely to be found among ethnic minorities, including Indians in East Africa (Bonacich 1973).[31] Most importantly, ethnic minorities have the advantage of "bounded solidarity" and "enforceable trust" (Portes and Zhou 1992), which act against the violation of group norms, such as malfeasance among entrepreneurs, and in favor of mutual support. Notably, bounded solidarity emerges not out of spontaneous feelings due to, say, common ethnicity. Rather, it is a reaction by "a class of people faced with common adversities" (Portes and Sensenbrenner 1993, 1325) and a product of the enforcement capacity of the ethnic community, including "ostracism of violators [and] cutting them off from sources of credit and opportunity" (Portes and Zhou 1992, 514), in a context in which members do not have employment options outside of kin (Granovetter 1995).[32] Others have shown that friendships among competitors enhance collaboration and mitigate harmful competition (Ingram and Roberts 2000) and that relations among minority group members improve availability of information

TABLE 1.1. Foreign aid and local factors that shaped local pharmaceutical production in Kenya, Tanzania, and Uganda, 1980s–90s & 2000s–2010s

		Market	Monitoring	Mentoring	Outcome
Emergence 1980s–90s	Kenya	Foreign aid; State		Local entrepreneurs	(+) Emergence, resilient
	Tanzania			Local entrepreneurs	(~) Emergence, fragile
	Uganda				(–) Late emergence, fragile
Upgrading 2000s–2010s	Kenya	Foreign aid	Foreign aid	Foreign aid	(+) Upgrading
	Tanzania	Foreign aid	Foreign aid; State	Foreign aid	(+) Upgrading
	Uganda	Foreign aid			(–) No upgrading
	Uganda*	Foreign aid; State	Foreign aid; FDI	FDI	(+) Upgrading of one company

* Indicates a case of one firm with an exceptional trajectory. FDI = foreign direct investment.

(Ody-Brasier and Fernandez-Mateo 2017). Similarly, the social ties of Kenyans of Indian origin were an important factor in the diffusion of information across manufacturers over the years, including in regard to opportunities provided by foreign aid.

Social ties, and local networks more generally, may strengthen a sector's trade association and therefore its political influence (Samford 2017; see also Evans 1995, Sen and Te Velde 2009). In East Africa, however, trade associations of pharmaceutical manufacturers did not have the "institutionalized channels for the continual negotiation and renegotiation of goals and policies" that Evans (1995, 12) describes in his analysis of embedded autonomy. An interest in local drug production by either the state or aid agencies triggered, rather than was in response to, an association's activities. The exception was Kenya in the 1980s, where the trade association—created by manufacturers with extant social ties—did gain some early concessions.

In sum, developing countries rely on foreign aid for markets, monitoring, and mentoring because they have only small markets, because regulations are loose and difficult to enforce, and because local skills are lacking. This is not to say that states and other local actors cannot provide a foundation for developmental foreign aid, however. Table 1.1 offers a summary of the complementarity of foreign aid and domestic capabilities in Kenya, Tanzania, and Uganda that led to the emergence and upgrading of the local pharmaceutical sector in these countries (see also book outline below).

Toward a Comparative-Historical Analysis of Foreign Aid

This book offers a comparative-historical analysis of the effects of foreign aid on local pharmaceutical production in Kenya, Tanzania, and Uganda. I examine the political-economic history of each country starting with the colonial era, but I focus on the periods most significant to the stated research question: the 1980s–1990s, where I study the effects of foreign aid on the *emergence* of pharmaceutical firms, and the 2000s–2010s, where I study the effects of foreign aid on the *upgrading* of pharmaceutical firms in each country.

Earlier in this chapter I explained why local pharmaceutical production is a politically important and analytically interesting field for studying the effects of foreign aid. Kenya, Tanzania, and Uganda, in turn, offer rich sites for such a study. In all three countries, pharmaceutical production has been affected by numerous types of foreign aid over a long period of time, including aid given to the state and aid given directly to the sector; aid aimed at industrialization, aid granted for the procurement of drugs, and aid for state capacity building; and aid given bilaterally as well as multilaterally. This provides a rich arena to look at whether and which types of aid work. At the same time, the effects are sufficiently contained to permit analysis of almost every pharmaceutical firm in the history of each country.

The pharmaceutical sectors in Kenya, Tanzania, and Uganda are also particularly suitable for a comparative analysis across countries and over time. First, the pharmaceutical sectors in all three countries were exposed to extensive foreign aid interventions, unlike pharmaceutical sectors in other countries, such as India and China. Second, both in the 1980s–1990s and in the 2000s–2010s, the kind of foreign aid interventions, as well as the local context that these interventions met, were sufficiently similar to convincingly isolate the factors that led to differences in outcomes. The similarities in the local context include a relatively common colonial history and similar economic and political reforms following liberalization. As mentioned previously, there are important differences as well. After independence in the early 1960s, the three countries followed different political-economic regimes: liberalism in Kenya, African socialism in Tanzania, and military dictatorship followed by civil unrest in Uganda. And, already under British rule, Kenya was industrially and financially more developed than Tanzania and Uganda, and its economy continued to perform better later on.[33] The cases are also interdependent, to some extent. Kenyan drug producers, for example, export their drugs to Tanzania and Uganda. Accordingly, the analysis incorporates points of intersection and mutual influence between the cases.

My study of the pharmaceutical sector in each country is constructed largely through the experience of individual companies. To establish the emergence and upgrading stories of each firm (including those that have closed), I relied

on interviews, along with archival materials and public documents. Altogether, I conducted approximately 240 interviews. In Kenya (95 interviews), Tanzania (37), and Uganda (43), I interviewed founders of local pharmaceutical firms, current managing directors, and industrial pharmacists working in those firms. I also interviewed importers and distributors of drugs, civil servants in the relevant government agencies, and representatives of professional and trade associations, international organizations and bilateral development agencies, and local and foreign nongovernmental organizations (NGOs). In Kenya, I participated in a conference organized by the Pharmaceutical Society of Kenya and attended one meeting of the Federation of Kenya Pharmaceutical Manufacturers. To situate local production in the larger global pharmaceutical market, I also conducted interviews in India (25), China (15), and South Africa (2). In India, I interviewed owners and representatives of pharmaceutical companies that export to African countries, as well as representatives of professional and trade associations, and of local and foreign NGOs. I also participated in a conference organized by the Indian Drug Manufacturers' Association. In China, I interviewed representatives of pharmaceutical companies that export to African countries and consulted with others involved in the pharmaceutical and biotech sectors. To obtain the perspective of foreign aid providers, I interviewed officials at the WHO and the Global Fund in Geneva, Switzerland, at UNIDO in Vienna, Austria, and, in Germany, I interviewed representatives of the German Technical Cooperation Agency (GIZ), the Federal Ministry of Economic Cooperation and Development (BMZ), and the medical aid nongovernmental organization action medeor. I also interviewed representatives of the pharmaceutical company Roche in Basel, Switzerland. In addition, I conducted extensive archival research at the WHO library and archives.[34]

Pharmaceutical Production in East Africa and an Outline of the Book

The pharmaceutical sectors that emerged in Kenya, Tanzania, and Uganda in the 1980s and 1990s were all small, but the available measures indicate that the Kenyan pharmaceutical sector fared better than the Tanzanian and Ugandan ones. The Ugandan sector's performance was particularly poor. In 1990, the estimated market shares of total drug sales of local drug manufacturers were 20 percent in Kenya, less than 10 percent in Tanzania, and negligible in Uganda.[35] In addition to one or two state-owned enterprises (SOEs), which all three countries established, Kenya had twelve privately owned companies, while Tanzania had four, and Uganda only one. Other indicators show similarly pronounced differences. By 1990, Kenya had the total capacity to manufacture 8 billion tablets and 800 million coated tablets per year, whereas Tanzania only had the capacity to produce 3 billion tablets per year.[36] The Kenyan

TABLE 1.2. Local pharmaceutical production in Kenya, Tanzania, and Uganda, 1990

	Kenya	Tanzania	Uganda
Local market share	Est. 20%	Est. less than 10%	Negligible
No. of firms	1 SOE + 12 private	2 SOEs + 4 private	1 SOE + 1 private
Value	$15 million (1987)	$4.9 million	Negligible
No. of employees	Over 1,000	Est. 340	N/A
Total manufacturing capacity	8 billion tablets 800 million coated tablets 1 billion capsules 10.8 million liters 20 million bottles 800,000 kg creams 50 million vials 26.5 million ampoules	3 billion tablets 69 million capsules 430,000 liters 1 million bottles 40,000 kg 10.5 million vials 0.5 million liters of semi-solids 0.5 million aerosol	N/A

Source: Compiled by the author; see chapters 3, 4, 5. SOE = state-owned enterprise.

pharmaceutical sector employed three times the number of workers that the Tanzanian sector employed, and the value of the Kenyan pharmaceutical sector was estimated to be three times larger.[37] Although we have no credible data on Uganda, we can safely assume that the production capacity, employment, and value of the pharmaceutical sector in Uganda at the time were all minor. Table 1.2 summarizes the above indicators.

By 2000, Kenya, Tanzania, and Uganda all had local pharmaceutical firms that produced generic versions of simple drugs. But then, in all three countries, some companies increased their production capabilities, producing more complex drugs and following higher quality standards. In all three countries the contributions of the pharmaceutical sectors to GDP remained small, but there were also significant differences.[38] The Kenyan sector remained the largest of the three; indeed, measured by value, Kenya was one of the three largest local producers of medicine in the region (not counting South Africa), behind Nigeria but on par with Ghana (IFC 2007, figure A3.2, UNIDO 2011b, Simonetti, Clark, and Wamae 2016). In the most recent data available, estimated market share of the local pharmaceutical sector in Kenya was 28 percent, compared to an estimated market share of 10–15 percent in both Uganda and Tanzania (UNIDO 2010a, Wangwe et al. 2014a). By 2010, Kenya had twenty firms producing drugs, compared to nine in Tanzania and eleven in Uganda; and the estimated value of the pharmaceutical sector in Kenya in 2008 was $103 million, compared to $46 million in Tanzania, and $27.6 million in Uganda

TABLE 1.3. Local pharmaceutical production in Kenya, Tanzania, and Uganda, 2010

	Kenya	Tanzania	Uganda
Local market share	28% (2008)	Est. 10–15%	Est. 10–15%
No. of firms	20	9	11
Value	$103 million (2008)	$46 million (2008)	$27.6 million (2008)
No. of employees	3,389	N/A	1,216
New drugs	ARVs; ACTs	ARVs; ACTs; Zinc/lo-ORS	ARVs;* ACTs*
Quality standards	WHO PQ; PIC/S; Roche audit	WHO PQ; PIC/S; Roche audit	WHO PQ*

Source: Compiled by the author; see chapters 6, 7, 8.

* Indicates a firm with an exceptional trajectory. ARV = antiretroviral, ACT = artemisinin-based combination therapy, lo-ORS = low-osmolality oral rehydration salts, WHO PQ = World Health Organization prequalification, PIC/S = Pharmaceutical Inspection Convention and Pharmaceutical Inspection Cooperation Scheme.

(UNIDO 2010a, 2010b, UNDP 2016). In Kenya, 3,389 persons were employed in the sector, whereas in Uganda 1,216 were employed (UNIDO 2010a, 2010b). Although we have no equivalent estimates for employment in the pharmaceutical sector in Tanzania (Losse et al. 2007), we can assume it was much smaller than in Kenya because in 2010, 4,687 persons in total were employed in the country's 37 chemical firms, only a handful of which produced pharmaceutical products (UNIDO 2010c).

In terms of the range of drugs manufactured and of quality standards, however, both Kenya and Tanzania fared better than Uganda. Not only did the top companies in Kenya and Tanzania register a larger number of drugs than top Ugandan companies (chapter 2), but the top pharmaceutical companies in Kenya and Tanzania learned to produce new types of drugs, including ARVs, ACTs and, for treating diarrhea in children, zinc and low-osmolarity oral rehydration salts (lo-ORS), following high quality standards, whereas the larger companies in Uganda, with the exception of one company with a unique trajectory, did not. In Kenya, two companies pursued WHO PQ (one successfully), six companies pursued a European certificate (PIC/S), and three passed an audit conducted by Roche. In Tanzania, although pharmaceutical firms did not seek WHO PQ for ARVs or ACTs, two companies pursued WHO PQ for zinc, one company pursued PIC/S, and two passed the Roche audit. Table 1.3 summarizes some of the indicators mentioned above.

In the rest of the book, I offer a detailed empirical investigation of the emergence and the upgrading experiences of pharmaceutical companies in Kenya, Tanzania, and Uganda, as indicated in the measures above. Because locally produced drugs capture only a small share of the drug market in East Africa, however, the analysis would not be complete without situating local firms in that larger context. Chapter 2 documents the shift in the pharmaceutical markets in Kenya, Tanzania, and Uganda from markets dominated by originator (brand-name) drugs produced by western companies to markets dominated by generic drugs produced in the global South, most prominently, in India. The chapter also describes the ongoing efforts by multinational pharmaceutical companies to slow down that shift—especially by strengthening intellectual property rights. The chapter contributes to the scholarship on industrial production in developing countries by identifying the role African markets played in the growth of the Indian pharmaceutical sector. As for the concern that TRIPS has pushed Indian drug manufacturers out of poor countries, I show that the data do not indicate such a "flight," but that it reveals changes with a direct effect on access to affordable medicine—including increased reliance on drug donations to attract large drug companies into these markets. Finally, the chapter examines why reports on the prevalence of Chinese drugs in East Africa are greatly exaggerated.

The following three chapters describe the *emergence* of the pharmaceutical sectors in Kenya, Tanzania, and Uganda respectively. Chapter 3 begins with the international political-economic context, in which developing countries were able to make local pharmaceutical manufacturing part of "development" in the 1970s–1980s, thereby encouraging foreign assistance in that field and enhancing interest in local pharmaceutical production in many countries. The chapter then describes the interplay between foreign aid and state policies in Kenya that together contributed to the emergence of a small yet robust locally owned pharmaceutical sector. Most important was a "ration kits" program that helped rationalize the procurement and distribution of drugs in rural areas. As part of that program, a government-funded component was used to specifically purchase locally produced drugs. This proved critical for the emergence and growth of the Kenyan pharmaceutical sector. Other policies in support of the state-owned pharmaceutical firm also indirectly pushed for and later assisted privately owned pharmaceutical firms. With the support of foreign aid, then, the Kenyan government was able to create a market for local producers. Foreign assistance did not come with technology transfer (mentoring), and access to technical know-how was predominantly available to Kenyans of Indian origin, whose social position during colonialism and after independence granted them educational, commercial, and cultural ties abroad. There was little attention to quality standards (monitoring).

Chapter 4 examines the limited growth of the local pharmaceutical sector in Tanzania, compared to Kenya. Tanzania, too, relied on a ration kits program

funded by donors, but development agencies rejected suggestions for a local component for ration kits, and donors offered only limited support—in the form of raw materials—to state-owned pharmaceutical enterprises. Without a domestic component, the ration kits turned from a potential facilitator of local pharmaceutical production, as was the case in Kenya, into a factor undermining it. Limiting domestic opportunities in the context of a socialist economy further inhibited the emergence of privately owned pharmaceutical factories. Nevertheless, a number of private companies did open, and their trajectories again illustrate the role education and ties abroad could play in the creation of a private sector in a context in which technical skills were not available locally.

Concluding this section, chapter 5 explains why a local pharmaceutical sector did not emerge in Uganda in the 1980s, and why it was fragile when it ultimately did emerge in the 1990s. Uganda's political-economic situation during Idi Amin's military dictatorship between 1971 and 1979, and until the end of the civil war in 1986, was inhospitable for both state-owned and private pharmaceutical manufacturing. Moreover, when Amin expelled Indians in 1972, Ugandan entrepreneurs' ties abroad were severed, delaying the emergence of a private pharmaceutical sector in the country. A ration kits program was launched in Uganda only in 1986, and it did not have a local component. A pharmaceutical sector cautiously emerged only in the 1990s. The vacuum created during the Amin regime now enabled broader access to the pharmaceutical field, including indigenous Africans on the one hand and non-Ugandans on the other. However, without ties abroad, in addition to lack of state support or foreign assistance, many pharmaceutical firms that opened at the time were quite fragile.

The following three chapters describe the upgrading of the pharmaceutical sectors in Kenya, Tanzania, and Uganda in the 2000s and 2010s—a period shaped by the liberalization of the East African markets back in the 1990s, negotiations over TRIPS, and the international response to AIDS. Chapter 6 describes the conditions that led pharmaceutical manufacturers in Kenya to invest in the production of a broader range of drugs, and to improve quality standards beyond what was required by local regulations. The chapter begins with the contentious negotiations over TRIPS—including in regard to developing countries' concern that producers of generic drugs would no longer be able to make the types of generic drugs needed in poor countries. I describe how these negotiations resulted in donors providing to some developing countries not only markets, as they did in the 1980s, but also monitoring and mentoring. In Kenya, a new market of interest to local manufacturers, for anti-AIDS and antimalarial drugs, was created when the Global Fund to Fight AIDS, Tuberculosis and Malaria, among other donors, did not a priori exclude local manufacturers from tenders. To participate in these tenders, however, drugs manufacturers had to receive WHO PQ confirming that their drugs were produced following international, rather than only local, quality

standards. This monitoring gave local producers an incentive to improve their manufacturing practices. In turn, development agencies offered training and other forms of mentoring—giving local producers the means to learn *how* to produce drugs following these higher quality standards.

Chapter 7 describes the transition of the pharmaceutical sector in Tanzania from a small, vulnerable sector to a still small but more sophisticated one. The chapter shows that, as in Kenya, upgrading was thanks to developmental foreign aid that offered markets, monitoring, and mentoring. Fewer pharmaceutical companies in Tanzania were able to respond to the incentives created by the Global Fund market, but they responded positively to tailored offers made by development agencies, which involved help with creating domestic demand. Another difference between Tanzania and Kenya was the complementary regulatory roles played in Tanzania by the state and, potentially, foreign investors.

Chapter 8 identifies the conditions that led even the largest Ugandan pharmaceutical companies to forgo production of complex drugs or quality upgrading, with the exception of one firm with a unique trajectory. In Uganda, the Global Fund did not operate through the drug procurement state agency, which made the Global Fund market less approachable for most local producers. Additionally, Ugandan producers were not offered the mentoring made available to Kenyan and Tanzanian drug companies. Without potential markets and adequate mentoring, local producers did not have the incentives or capabilities to change their strategies, and local pharmaceutical firms in Uganda continued to produce simple drugs. The exception was a joint venture between a Ugandan firm and one of the largest pharmaceutical companies in India. With unprecedented support from the state, it was able to successfully achieve a WHO certificate and take advantage of the Global Fund and other markets.

Finally, chapter 9 summarizes the book's main arguments regarding developmental foreign aid in the pharmaceutical field and suggests that similar conclusions apply to other industrial sectors, as well as to other (nonindustrial) sectors of interest to foreign aid, including the provision of services and the distribution of essential commodities. The chapter then identifies a number of contradictions and tensions inherent to developmental foreign aid, including in regard to its effects on the state. First, given that the cases examined in the book confirm the importance of state capacity for foreign aid effectiveness, the chapter takes on the highly contested question of whether foreign aid could contribute to state capacity-building. I suggest that although there are obvious challenges, there are also convincing indications that both pharmaceutical regulation and enforcement by state agencies have significantly increased thanks to foreign aid support. Second, given the difficulties in increasing state capacity, maybe aid programs could simply bypass the state? The chapter explains why even developmental foreign aid should not—but also cannot—replace the state.

Foreign aid can be effective and therefore requires our support. But the type of foreign aid that is likely to be effective is not parachuting aid that evades local institutions and actors but, rather, foreign aid that relies on the institutions and actors in place. Finally, the last section of chapter 9 considers the recent wave of FDI in the pharmaceutical sector in East Africa. It suggests that this development, too, makes the state more rather than less essential.

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