

# Investing in Winners: Spatial targeting for manufacturing growth, formal employment growth and sustainable urban growth in Ethiopia's secondary cities

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## Abstract

Ethiopia's ambitious growth and transformation agenda will be well served if the country achieves manufacturing targets and succeeds in making secondary city hubs of manufacturing growth and employment. However, spatial targeting of manufacturing investments and the guiding of urban development pose dual challenges to achieving these goals. There is consensus in the literature that leading, not lagging, cities are the best candidates for successful manufacturing growth (Farole, 2011; Farole & Sharp, 2017; Schroeder, Lall & Schmidt, 2015; UNCTAD, 2019; UNECA, 2018). This paper identifies nine leading secondary cities which pair both manufacturing employment growth with other formal private sector employment growth, and then examines the state of urban development in those cities. It draws out three major recommendations for Ethiopia's secondary cities: First, the national government should target leading cities such as the nine identified for investments in manufacturing growth. Second, these cities must pair good urban planning and implementation with economic investments to ensure the sustainability of growth and urban productivity. And third, it will be important to foster linkages between industrial areas, the labour force and the rest of the economy.

## Introduction

In resource-constrained and rapidly urbanizing countries like Ethiopia, the question of *where* to target investment to leverage job creation and productivity will remain one of the strategic issues shaping economic structural transformation in the coming decades. Addis Ababa remains the economic powerhouse of the nation; continuing to invest in it is necessary to prevent premature diseconomies.<sup>1</sup> Simultaneously, targeted investment in promising secondary cities should be promoted to relieve the population pressure on Addis Ababa, and to facilitate spatial and economic diversification. International experience suggests that cities with an established economic agglomeration and growth are more likely to have the scale and momentum to maximize competitiveness and job creation. Attracting investment to lagging cities is difficult, costly, and an exception to the norm (Farole, 2011; Farole & Sharp, 2017; Schroeder, Lall & Schmidt, 2015).

Building on the above ideas as the premise, and drawing upon the special role of secondary cities in transforming economies like Ethiopia, in this paper, we ask two questions. First, which of Ethiopia's secondary cities are emerging as potential job creators in manufacturing and other productive sectors? Second, to what extent are these cities managing their urban growth to fully realize their potential and sustain their catalytic role in job-rich industrial development? The aim is not to provide a conclusive list of priority cities, but rather, using an illustrative sample of best-performing secondary cities, to assess whether they have paired economic growth with sustainable urban expansion and derive some recommendations to ensure urbanization supports Ethiopia's ambitious growth and transformation agenda.

We focus on secondary cities, because they are "considered to be facilitators of labour mobility, job creation, and the transition from rural to non-rural activities," and yet there is a general concern among policymakers and academics about their relative lag in economic performance and role in industrial development across Africa (Henderson & Kritikos, 2017, p. 25). Secondary cities can offer the benefits of same-sector clustering (localization economies) without the costs and overcrowding of very large cities. Often, established industries move toward secondary cities, and under favorable conditions can lead to city specialization. In Ethiopia, it has been shown that specialization of cities is conducive to growth (Mukim, 2016).

We analyze secondary cities through the economic lens of manufacturing. Historically, manufacturing has been a powerful escalator of economic development for low-income countries due to its productivity advantage, capacity to turn a massive number of farmers with few skills into an industrial workforce, and expanding global export market opportunities. Sustaining Ethiopia's recent growth-enhancing structural change requires increasing productivity in non-agriculture sectors, first and foremost manufacturing. (Diao, et al. 2017). Accordingly, Ethiopia's GTP II identifies manufacturing as the main driver of growth and employment for an urbanizing population.

## Analysis

Several of Ethiopia's secondary cities are performing better than average. In identifying these star performers, we are particularly interested in (1) manufacturing employment, and (2) other formal private sector employment growth. Manufacturing alone cannot create sufficient productive urban jobs, but when the manufacturing sector develops alongside (and with linkages to) productive services, that is a recipe for inclusive growth.

Looking at manufacturing and other private formal employment growth, we can identify nine cities<sup>2</sup> which are growing faster than average<sup>3</sup> over the period of 2011-2018. Those cities are in the upper right quadrant of Figure 1. The cities represented by smaller bubbles started with a smaller manufacturing base in 2011, whereas larger

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<sup>1</sup> Premature diseconomies of agglomeration occur when the costs associated with city size (congestion, crowding, higher prices) increase faster than what would be expected based on the city's size and GDP.

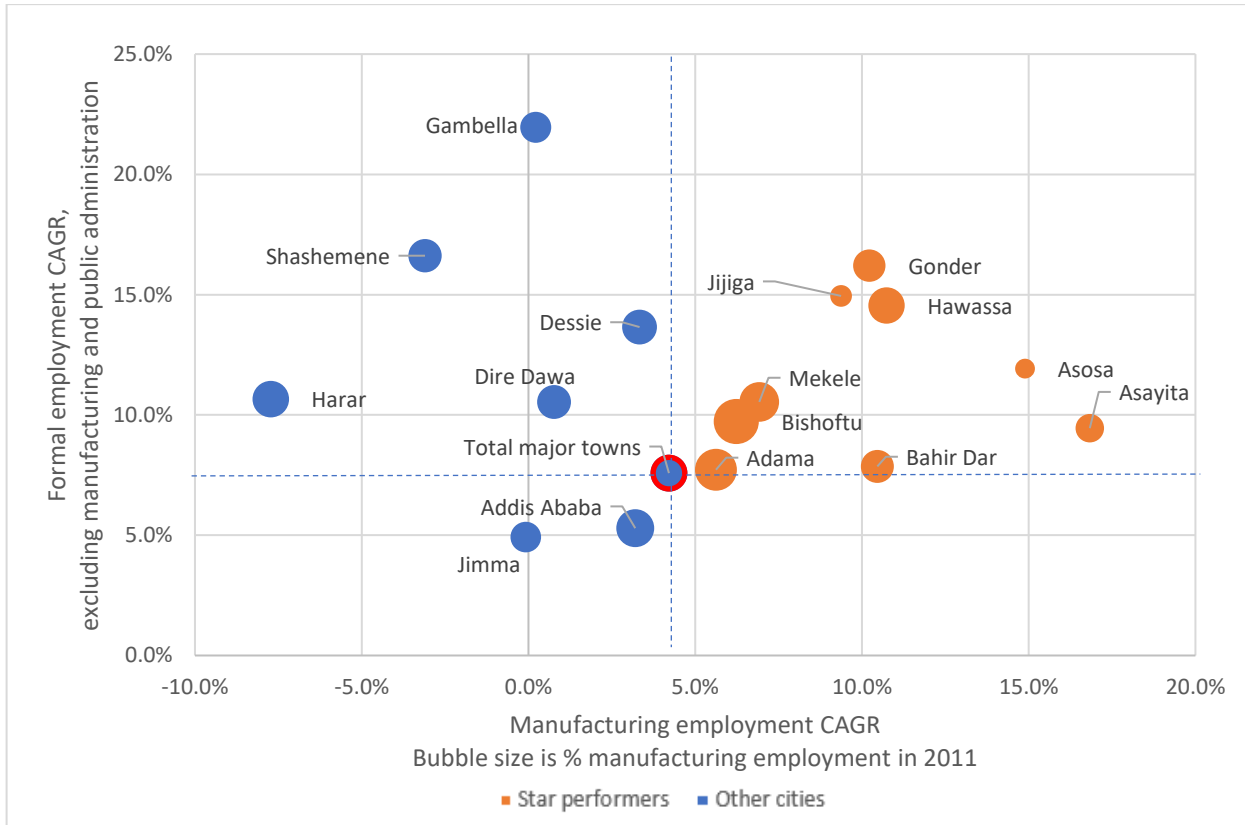
<sup>2</sup> Adama, Asayita, Asosa, Bahir Dar, Bishoftu, Gonder, Hawassa, Jijiga and Mekele

<sup>3</sup> An average for employment growth in all major towns is shown in Figure 1. This average is weighted by city size.

bubbles started with a larger base.

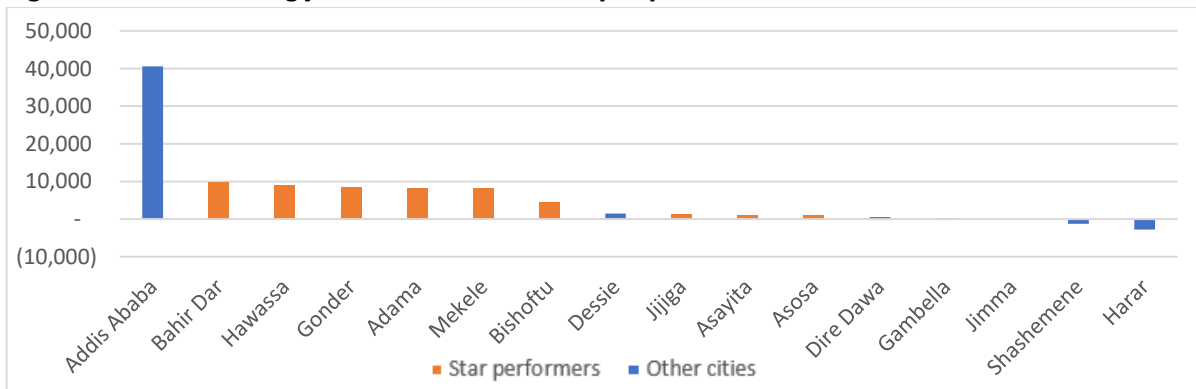
We should note that although employment in Addis Ababa has not grown at the same fast pace as smaller cities, it still accounts for the lion’s share of employment growth, having generated more than 40,000 net manufacturing jobs between 2011 and 2018 (Figure 2). The next five top cities, while experiencing faster growth, each saw less than 10,000 net manufacturing jobs created (Figure 2).

**Figure 1: Employment growth rates by city, 2011-2018**



Data: UEUS (Ethiopia’s National Urban Employment Unemployment Survey) 2011; UEUS 2018

**Figure 2: Manufacturing jobs added 2011-2018 by city**



Data: UEUS 2011; UEUS 2018

What are the characteristics of the nine star performers in comparison to other secondary cities? Interestingly, they are spread out among Ethiopia’s regions (Table 1). This is a fortunate occurrence since many countries face difficult tradeoffs in investing in either regional balance or growth-driving sectors, which tend to be spatially concentrated. There are three high performing cities close to Addis Ababa (Bishoftu, Adama, and Hawassa),

while the remainder are more than 8 hours away. Likely as a result of rapid employment growth, all have faster population growth than the weighted average for major towns, and much faster than population growth of Addis Ababa.<sup>4</sup>

Three of the nine cities (Adama, Hawassa and Mekele) have an industrial park, while Bishoftu is next to Eastern Industrial Park. However, industrial parks do not account for more than a quarter of manufacturing employment anywhere except Hawassa (Table 1), and nationwide, all operating industrial parks only account for 3-5 % of the total work force (Schmidt et al., 2018). Even so, they play a major catalyst role in realizing government's ambition to increase the share of manufacturing in GDP to 20%, through technology transfer, linkages and export promotion (Zhang, et al., 2018). Impact hinges on successful development of domestic supply chains and regional markets, where secondary cities can play a critical role.

**Table 1: Characteristics of Nine Star Performing Cities**

Town	Region	Distance from Addis Ababa (mins driving)	Pct. closer to Addis than avg. town <sup>5</sup>	Total Population aged 10+, 2018	Population CAGR 2011-2018	Population CAGR compared to all towns	Industrial Park	Industrial park employment as % of town manufacturing <sup>6</sup>
Adama	Oromiya	97	79%	291,456	5.3%	0.8%	Adama	4.1%
Asayita	Affar	521	-15%	21,938	9.5%	5.0%		
Asosa	Benishangu-Gumuz	766	-69%	39,640	7.0%	2.4%		
Bahir Dar	Amhara	528	-17%	228,047	5.1%	0.5%		
Bishoftu	Oromiya	70	85%	144,004	8.6%	4.0%	Next to Eastern	24.6%
Gonder	Amhara	684	-51%	283,676	6.9%	2.4%		
Hawassa	SNNP	276	39%	265,591	11.1%	6.5%	Hawassa	125.0%
Jijiga	Somalie	628	-39%	130,210	7.1%	2.6%		
Mekele	Tigray	792	-75%	290,017	6.2%	1.6%	Mekelle & Velocity	21.3%
<b>Major towns<sup>7</sup></b>		<b>452 (avg)</b>		<b>5,712,801</b>	<b>4.6%</b>			<b>17.4%</b>

Data: UEUS 2011; UEUS 2018; Cepheus, 2019

Rapidly growing cities often face extreme challenges when it comes to planned and sustainable patterns of urban expansion. An analysis of satellite imagery for the nine cities and their surrounding areas over the period of 2011-2018 reveals that planning has rarely preceded development. The clearest indicator of this is the percentage of urban extension areas that do not have a planned and connected street network: 70% of new industrial areas and 61% of new non-industrial areas. In most new housing developments, homes are built in a linear or grid fashion to allow for some internal mobility within the newly built area; however, the pattern of development typically has no relationship to the broader urban street grid (see Figures A3 and A4 in the annex for an example), resulting in disconnected enclaves. Also concerning is the very few non-industrial expansion areas that have planned open space (22%). Both streets and open spaces (such as parks) are difficult and costly

<sup>4</sup> Addis Ababa's population over age 10 grew at a compound annual growth rate (CAGR) of 3.2% between 2011 and 2018

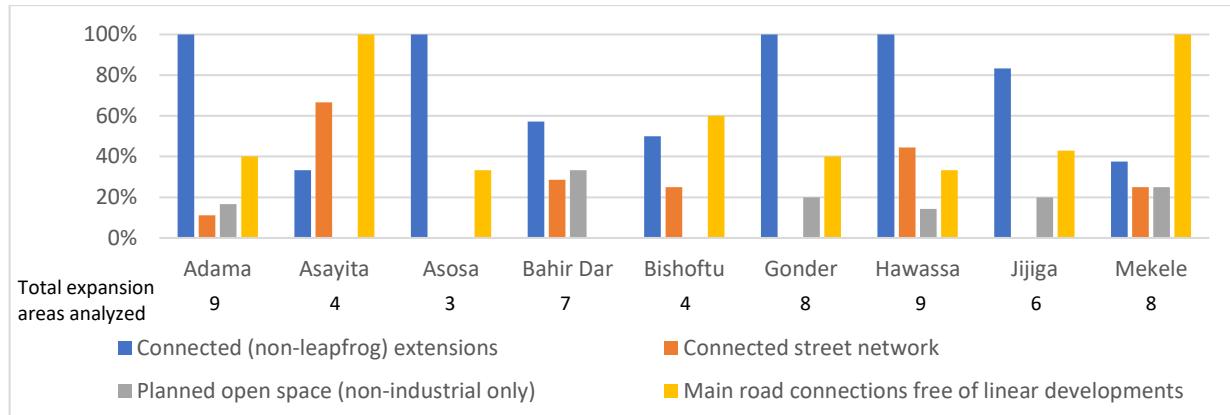
<sup>5</sup> The average major town is 452 mins. away from Addis Ababa, driving. Cities further away have negative percentages in Table 1.

<sup>6</sup> Not all industrial park employment is included in town manufacturing employment.

<sup>7</sup> Includes 16 major towns included in UEUS.

to insert once urban development has occurred. Fortunately, the majority of non-industrial new developments are contiguous to the existing city, with only 11% having a “leapfrog” characteristic.<sup>8</sup> Of new industrial areas, 55% are “leapfrog” areas which will require a good transit connection to ensure sustainable commutes for the urban workforce.

**Figure 3: Evidence of good urban planning and implementation by city**



Data: Authors

The nine star performers show varying levels of successful planning when it comes to the urban developments that occurred between 2011 and 2018 (Figure 3). Hawassa stands out as a city that has grown significantly and accommodated all expansion connected to the existing city. An impressive four of nine total expansion areas show a connected network of streets (see Figure A5 for an example). In spite of having some linear developments (along two of three major connecting roads; Figure A6), Hawassa is demonstrating that it is possible to accommodate rapid employment and population growth in a sustainable way.

## Conclusion and recommendations

Ethiopia is going through a triple transition: economic, urban and demographic. The next few decades offer a narrow window of opportunity to leverage urbanization for accelerating these transitions and charting a path toward sustained and inclusive economic growth. The experience of African countries attempting to break into manufacturing is disappointing, but Ethiopia may buck the trend in part by pairing sector strategies with spatial strategies. Secondary cities have a critical role to play. They can offer the benefits of some sector clustering (localization economies) without the costs of overcrowding experienced in very large cities. A comparative review of 16 secondary cities reveals that Ethiopia is perhaps at an early stage of urban differentiation, where some secondary cities are beginning to stand out as best performers in manufacturing and formal sector job creation. The question is whether they are prepared to manage and sustain their economic future through sustainable urban expansion. The response depends not simply on what the cities themselves are doing, but on what the national government is prepared to do.<sup>9</sup> We derive three major recommendations from the above analysis:

### 1. Target leading cities for investment in manufacturing growth.

The analysis above suggests nine star-performers, plus Addis Ababa, are good options for further investments in manufacturing growth. Of those, two (Adama and Bishoftu) already link with mega-investments in rail, which will convey additional advantages going forward. Cities with good economic momentum and an existing

<sup>8</sup> We classified leapfrog developments as those separated from the main urban grid by at least ½ km. The average new leapfrog development in the 9 cities between 2011 and 2018 was 3.3 km away from the main urban grid.

<sup>9</sup> National economic and sector policies have spatial implications. Local capacity for urban planning and implementation to align with such policies relies on national institutions. Similarly, major infrastructure investments are decided and financed nationally (UNECA, 2018).

economic base are the best candidates for the success of manufacturing investments (Farole, 2011; Farole & Sharp, 2017; Schroeder, Lall & Schmidt, 2015; UNCTAD, 2019). This does not preclude and even suggests investments in other economic sectors in non-manufacturing-based cities such as Gambella and Shashemene with high non-manufacturing private sector employment growth (Figure 1). Based on additional analysis, other cities could also be considered for manufacturing targeting. However, for sectors that benefit from clustering in space (i.e. manufacturing), it is important to also cluster investment in order to establish and boost productivity-enhancing agglomeration economies. This implies preventing the number of cities that receive major manufacturing investments from climbing so high that public and private investments are spread out rather than clustered. Not all of the identified cities will feature the same types of manufacturing nor require the same types of investments. To the contrary, specialization in differentiated sub-sectors is good for growth (Mukim, 2016).

## **2. Pair good urban planning and implementation with manufacturing investments to ensure the sustainability of growth and urban productivity.**

Investments in industrial and urban development must go hand-in-hand for sustainable growth. Planning at the scale of urban growth, and implementing a connected grid of streets in advance of unplanned expansion will be critical for long-term connectivity and mobility. Cities which expand without planning in advance will result in disconnected and linear developments. The Bishoftu area is a prime example, where there is a single major axis of both industrial and nonindustrial development (Road A1). Other cities also have linear developments (for example, see Figure A6), indicating the failure of a connected street grid to keep up with demand for urban growth. Linear growths will result in congestion and choke out industrial competitiveness. A connected and planned grid will also help prevent disconnected enclave grids (for example, Figures A4 and A5) and connect expansion areas to the main city. Disconnected housing and industrial enclaves undermine agglomeration economies which rely on connected markets for goods and labour. In addition to economic benefits, connected urban development can hold financial benefits, reducing the cost of trunk infrastructure (Burchell et al., 2000; Caruthers & Ulfarsson, 2003).

## **3. Foster linkages between industrial areas, the labour force and the rest of the economy.**

Manufacturing alone cannot create sufficient urban jobs for the entire workforce, and connections to other productive sectors will be critical. Connecting manufacturing to domestic firms and adequate serviced land for housing is needed to avoid massive price hikes as have already been seen in conjunction with the opening of Hawassa's industrial park (UNDP, "n.d"), which could eventually impact the price of labour and decrease competitiveness. Bole Lemi Phase I is another example of the need for good physical connections: "it has been challenging to get workers to the site, which is not well served by public transportation," (Newman & Page, 2017, p. 22). Transport costs are a predictor of manufacturing employment growth for Ethiopian cities (Mukim, 2016). Clustering of firms in cities strengthens the labour market through pooling and skills matching (UNECA, 2017); therefore, industrial sites that are distant from the main city require a good transit link to ensure that the benefits of an urban labour supply are not lost.

In sum, Ethiopia's secondary cities are already emerging as high-potential locations for manufacturing and formal sector growth that can transform the economy. Some cities have higher potential than others, and economic investments will likely have high returns where manufacturing clustering and growth is already occurring. However, investing in sustainable urban growth must be prioritized in conjunction with economic investments to ensure productivity is not choked out by urban disconnection and congestion. Already, positive examples exist. Coordinated planning for economic and urban growth should be targeted and scaled up.

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