UNDERSTANDING YOUR LOCAL ECONOMY
A Resource Guide for Cities
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Foreword

The long term prosperity and welfare of cities depends on their capacity to take advantage of opportunities for sustained economic growth. Moreover, poverty reduction is impossible unless cities are productive and able to offer economic opportunities to the urban poor.

The Cities Alliance, a global coalition of cities and their development partners, provides support for towns and cities of all sizes to design city development and slum upgrading strategies that maximise their potential—to improve living standards and enhance economic competitiveness.

Experience has demonstrated that a thorough understanding of the local economic conditions, and a city’s comparative and competitive advantages, is essential for an effective city development strategy. However, undertaking this analysis has consistently proven to be one of the most difficult challenges within the city strategies supported by the Alliance, prompting the production of this Resource Guide.

Drawing from fifteen case studies, as well as the methods and experiences from Cities Alliance members and partners, this Guide is designed to make good practices in local economic assessments more widely available to cities in developing countries. It aims to provide city leaders and economic development practitioners with a clear overview of what needs to be done to understand their local economy and assess its competitiveness—helping practitioners select the tools and methodologies best suited to their city.
This Resource Guide has been financed by the Netherlands Ministry of Foreign Affairs, which supports programmes that enhance the business climate to boost employment and income in developing countries. We hope this guide will help cities and towns undertake effective economic assessments, and develop better, stronger strategies to support job creation and enable sustainable and inclusive growth.

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Manager
Cities Alliance
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AIM</td>
<td>Asian Institute of Management</td>
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<td>APC</td>
<td>Association of Polish Cities</td>
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<td>AUC</td>
<td>Association of Ukrainian Cities</td>
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<td>BDEC</td>
<td>Business Economic Development Committee</td>
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<tr>
<td>BNPP</td>
<td>Bank-Netherlands Partnership Program</td>
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<tr>
<td>CAGR</td>
<td>compounded annual growth rate</td>
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<td>CDS</td>
<td>city development strategy</td>
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<td>CDSEA</td>
<td>National City Development Strategy Learning Network in the Philippines</td>
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<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<tr>
<td>COC</td>
<td>Consultation Organising Committee</td>
</tr>
<tr>
<td>COPS</td>
<td>Canadian Occupational Projection System</td>
</tr>
<tr>
<td>EASUR</td>
<td>East Asian Urban Development Sector Unit</td>
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<tr>
<td>ECOLOC</td>
<td>Economies Locales (MDP/OECD programme for West African countries)</td>
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<tr>
<td>FCM</td>
<td>Federation of Canadian Municipalities/Fédération canadienne des municipalités</td>
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<tr>
<td>FDI</td>
<td>foreign direct investment</td>
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<tr>
<td>GIS</td>
<td>geographic information system</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GFCF</td>
<td>gross fixed capital formation</td>
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<tr>
<td>GGP</td>
<td>gross geographic product</td>
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<tr>
<td>GRDP</td>
<td>gross regional domestic product</td>
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<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft für Technische Zusammenarbeit</td>
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<tr>
<td>GVA</td>
<td>gross value added</td>
</tr>
<tr>
<td>HHI</td>
<td>Herfindahl-Hirschman Index</td>
</tr>
<tr>
<td>HS</td>
<td>harmonised system (code for commodity classification)</td>
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<tr>
<td>ICEDeL</td>
<td>Instituto de Capacitación y Estudios para el Desarrollo Local (Argentina)</td>
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<tr>
<td>ICS</td>
<td>investment climate survey</td>
</tr>
<tr>
<td>Ifo</td>
<td>Institut für Wirtschaftsforschung (Germany)</td>
</tr>
<tr>
<td>IHSN</td>
<td>International Household Survey Network</td>
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<tr>
<td>ACRONYMS AND ABBREVIATIONS</td>
<td>MEANING</td>
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<td>-----------------------------</td>
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<tr>
<td>IIOA</td>
<td>International Input-Output Association</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<tr>
<td>ISIC</td>
<td>International Standard Industrial Classification</td>
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<tr>
<td>km</td>
<td>kilometre</td>
</tr>
<tr>
<td>LCP</td>
<td>League of Cities of the Philippines</td>
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<tr>
<td>LED</td>
<td>local economic development</td>
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<tr>
<td>LGDK</td>
<td>Local Government of Denmark</td>
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<tr>
<td>LGU</td>
<td>local government unit</td>
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<tr>
<td>LRED</td>
<td>local and regional economic development</td>
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<tr>
<td>MBN</td>
<td>minimum basic needs</td>
</tr>
<tr>
<td>Mbps</td>
<td>megabit per second</td>
</tr>
<tr>
<td>MDP</td>
<td>Municipal Development Partnership</td>
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<tr>
<td>MSQA</td>
<td>multisector quantitative analysis</td>
</tr>
<tr>
<td>NAICS</td>
<td>North American Industry Classification Systems</td>
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<tr>
<td>NGOs</td>
<td>nongovernmental organisations</td>
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<tr>
<td>NLC</td>
<td>National League of Cities (U.S.)</td>
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<tr>
<td>NORAD</td>
<td>Norwegian Agency for Development Cooperation</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>PCCRP</td>
<td>Philippine Cities Competitiveness Ranking Project</td>
</tr>
<tr>
<td>PEST</td>
<td>political, economic, social, and technological analysis</td>
</tr>
<tr>
<td>QoL</td>
<td>quality of life</td>
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<tr>
<td>R&amp;D</td>
<td>research and development</td>
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<tr>
<td>SACN</td>
<td>South African Cities Network</td>
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<tr>
<td>SAM</td>
<td>social accounting matrix</td>
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<tr>
<td>SIC</td>
<td>Standard Industrial Code</td>
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<tr>
<td>SMEs</td>
<td>small and medium enterprises</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<tr>
<td>Stata</td>
<td>statistical software</td>
</tr>
<tr>
<td>SWOT</td>
<td>strengths, weaknesses, opportunities, and threats (analysis)</td>
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<tr>
<td>UCLG</td>
<td>United Cities and Local Governments</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UN-HABITAT</td>
<td>United Nations Human Settlements Programme</td>
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<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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Introduction

The purpose of this Guide is to ensure that cities have easy access to the guiding principles and basic tools for local economy assessments and for integrating these into development plans.

A local economy assessment typically involves several steps:
1. Organise the effort
2. Define a key set of LED indicators
3. Collect city-level data
4. Analyse the data
5. Link the analysis to the strategy development process
6. Monitor and evaluate the results
7. Maintain the effort

This Resource Guide presents practical approaches to conducting a city-wide economic competitiveness assessment. This is relevant for assessing cities and wider city-regions. The Guide includes guidance on how to choose local economic development (LED) indicators and tools that can be used to collect and analyse data and assess the overall competitiveness of the local economy.

The Guide is intended for the people and organisations involved in the local economy assessment and strategy development processes, including mayors and municipal managers, strategy process leaders, and LED practitioners. Given the diverse interests of this target group, users are encouraged to make selective and creative use of the guide based on the interests, context, and capacities of their local communities. To make the Guide accessible to different audience needs, it is split into two sections: the first provides an overview of key issues and tools; the second provides detailed practical guidance useful for conducting the local economy assessment.

The Guide is not a training manual or toolkit and does not present step-by-step guidance on how to apply the various tools and techniques used in conducting the local economy assessment. These have already been captured in a number of LED toolkits and training manuals which have not been duplicated here but referenced instead. Links to a range of good-quality toolkits and other materials which contain more detailed information on the use of analytical tools in local economy assessment have also been provided.

Although there is no single, universally accepted method for conducting a local economy assessment for urban areas, cities typically follow the analytical and decision-making steps outlined on the left.

The introductory chapter, Setting the Stage, explains why a local economy assessment is needed as a first step in the city development strategy (CDS) process. In section one, chapters 1 to 5 intro-
duce key issues and provide quick guides to reference materials and other resources to aid local government leaders, managers, and LED practitioners in conducting the local economy assessment. These chapters are structured around five major considerations in a local economy assessment process:

- **Organising the effort**—How can cities organise and manage the local economy assessment process? Chapter 1 identifies key considerations about the organisation and management of the local economy assessment process.
- **Identifying data requirements**—What data and economic indicators do cities need to understand the local economy? Chapter 2 provides an overview of key economic indicators used to assess the local economy and its competitiveness and presents potential menus of economic indicators by city context (resource availability).
- **Collecting data**—What tools can cities use to capture the data needed to analyse the local economy? Chapter 3 introduces the use of data collection tools (surveys and participatory techniques) in the local economy assessment and provides a quick guide to aid in data collection tool selection.
- **Analysing data**—Which tools can help cities effectively analyse data on the local economy? Chapter 4 presents an overview of data analysis tools and provides a quick guide to aid in data analysis tool selection.
- **Assessing competitiveness**—What tools can help cities to assess competitiveness and develop strategic recommendations? Chapter 5 presents an overview of data analysis tools and provides a quick guide to aid in data analysis tool selection.

Section two presents detailed resource lists for practitioners, including guidance on over 30 analytical tools that have been tried and tested in real CDSs. For each tool and analytical framework discussed, there is commentary on what analytical questions the tool helps practitioners to address, along with practical information, the key inputs that are required, tips on best practices, and lists of online and other useful sources for additional information.

The practitioner resources in section two are structured around four practical topics:

- **Identifying data requirements**
  Chapter 6 presents lists of economic indicators and provides a guide to economic development indicator selection.
- **Collecting data**
  Chapter 7 provides guidance on data collection tools and information on further resources.
- **Analysing data**
  Chapter 8 provides guidance on commonly used data analysis tools and information on further resources and introduces some less commonly used data analysis tools as well.
- **Assessing competitiveness**
  Chapter 9 provides guidance on widely used data analysis tools and information on further resources and describes other less commonly used strategic analysis frameworks.

Section two concludes with an appendix that lists relevant books, Internet, and other information sources, including donors, multilateral development agencies, and city networks in several regions.
This chapter provides an overview of the growing importance of economic development planning at the city level and explains the key role of local economy assessments in effective strategy development.

Why Are Local Economic Development Strategies Important?

The prosperity and welfare of cities around the world depend on the capacity of cities to take advantage of opportunities for sustained employment growth and minimise the challenges of global economic integration and urban population growth. Therefore, the quality of economic development planning and city management is extremely important. Developing sound local economic development (LED) strategies at the city level is critical to both good city management and economic performance.

LED strategies present an alternative to traditional top-down and sectoral policies for economic development and allow cities and their wider economic regions to take greater control of their economic development processes. LED strategies place a strong emphasis on:

- **Integrated territorial approaches.** The point of departure for LED strategies is a thorough understanding of all sectors of the local economy and a focus on how the business-enabling environment can be improved in order to retain current economic activity and attract new investment. LED strategies encourage economic activity by addressing specific economic conditions and sources of competitive advantage, supporting firms and employment opportunities to make them more resilient in the global economy. For most urban areas in developing countries, understanding the local economy also includes assessing the informal economy and harnessing it to create sustainable sources of
income for their urban poor. For many cities, it involves not only understanding the economic foundations of slums and deprived communities, but also finding opportunities for slum upgrading.

- **Strong governance and policy coordination.** It is critical that LED strategies are locally initiated, owned, and managed. This entails a great degree of policy coordination at the horizontal and vertical levels and requires new practices for transparent and accountable governance across a range of development partnerships and coalitions.

- **Participatory policy development.** Local-level policy development enables opportunities for fuller participation by partners such as the private sector, institutions, and civic groups. When stakeholders participate, their contributions to strategy design increase ownership, improve long-term impacts, and facilitate partnership building.

The city is where tailored LED strategies and innovative policies can be promoted and communities can be empowered to shape and take charge of their own futures. For cities in developing countries, LED strategies provide the further benefits of: the potential to leverage strong community ties; and the opportunity to tap into the informal economy and upgrade the local economic fabric.

Working closely with cities in developing countries, the Cities Alliance supports the development of city and city-region strategies for city development and slum upgrading. The Cities Alliance facilitates local economic development planning in cities through its support for city development strategies (CDSs). The Alliance promotes cities as proven poverty fighters and engines of economic growth. The Cities Alliance perspective on CDS is explained in the box below.

### What Is a Local Economy Assessment? Why Is a Thorough Local Economy Assessment Process Needed?

Many cities and city-regions have tried to adopt strategies successfully used by other cities elsewhere. However, where these strategies are not adapted to the local context, they are unlikely to succeed. Best practices can provide valuable guidelines and lessons to be tested in various contexts. But

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**City Development Strategies: The Cities Alliance Perspective**

A city development strategy (CDS) is an action plan for equitable growth in cities, developed and sustained through the participation of community organisations and the private sector to improve the quality of life for all citizens. The goals of a CDS include creating a collective city vision and action plan designed to improve urban governance and management, increase investment to expand employment and services, and provide systematic and sustained reductions in urban poverty. The CDS links the vision of local stakeholders with clear priorities for action and sustainable investment and finance strategies.

These overall goals can be achieved through a variety of approaches in cities and city-regions using strategic action plans based on local and national conditions. The Cities Alliance places great emphasis on the lead role being taken by the city itself. In short, local ownership of the process is vital.

Many CDSs focus on improving local and regional economies and supporting inclusive urban governance to reduce poverty.

Because the future of cities relies increasingly on their own economic abilities and comparative advantages, a local economic development strategy is at the core of every effective CDS. Local priorities include identifying ways to improve the city’s overall economic performance and efficiency, promote competitiveness of the city in national and international contexts, and develop a broad-based job creation plan that includes the informal sector. Overall success comes from involving all types of businesses (from microenterprises through larger private sector firms) in crafting the local development strategy, securing their involvement and investment, and defining the supportive role of the central government. A successful CDS is based on a careful assessment of the local economy components on which effective development strategies can be built.

success can be guaranteed only when the lessons learned elsewhere are thoroughly adapted to local conditions. This implies that a thorough knowledge and assessment of local conditions is required to implement city development strategies (CDSs). Therefore, effective LED strategies must be closely tailored to fit the specific local economic conditions and potential sources of competitive advantage in the local area. This can be achieved by making a thorough assessment of the city’s competitiveness the starting point of any economic strategy. Only with a strong understanding of the city’s current economic structure, capacity, strengths, and weaknesses is it possible for cities to put opportunities and challenges into context, develop a clear development vision, and prioritise strategic activities for growth. The effective local economy assessment that follows will help to ensure a better city strategy that creates jobs, spurs economic growth, and fosters social development.

### Economic Strategy Development: Where the Local Economy Assessment Fits in

There is no single, universally accepted method of strategic planning for cities. But there are many useful toolkits that can explain and guide cities through some of the key activities and steps involved in strategic planning. A thorough local economic development (LED) assessment is central to each of the strategy development approaches mentioned in this Resource Guide.

These seven toolkits provide useful introductions to local economic strategy planning:

- The Organisation for Economic Co-operation and Development (OECD/Club du Sahel) and Municipal Development Programme (MDP) ECOLOC handbook at: [http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1,00.html](http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1,00.html).
SECTION ONE

Key Issues and Quick Reference Materials

CHAPTER 1 Organising the effort
- Key considerations about the organisation and management of the local economy assessment process.

CHAPTER 2 Identifying data requirements
- Overview of key economic indicators used to assess the local economy and its competitiveness.
- Potential menus of economic indicators by city context.

CHAPTER 3 Collecting data
- Introduction to data collection tools (surveys and participatory techniques).
- Quick reference guide to aid tool selection.

CHAPTER 4 Analysing data
- Overview of data analysis tools.
- Quick reference guide to aid tool selection.

CHAPTER 5 Assessing competitiveness
- Overview of data analysis tools.
- Quick reference guide to aid tool selection.
San Fernando Port, Philippines
Organising the Effort

Chapter 1 of this guide explains how to organise and manage the local economy assessment process. There is no single best way to organise this type of effort, but useful lessons can be learned from the experiences of other cities. This chapter explores some of the models developed by various cities to institutionalise the assessment of their local economy and provides guidance on how often the assessments should be conducted.

Local stakeholders are an important part of the process. This chapter explains who typically participates and offers ideas on how to involve local stakeholders.

Who Should Be Involved in a Local Economy Assessment?

The local economy assessment is most often a collaborative exercise that involves a broad set of participants from government institutions, the private sector, and civic groups. Box 1.1 provides a brief overview of the different types of actors involved in the local economy assessment and describes their roles and responsibilities.

The lead actors in local economy assessment tend to be fundamentally local—and are those with a clear responsibility for and a commitment to improving the city’s development prospects. This is particularly true for the city’s political leadership.

Political leadership is critical to establishing a programme of local economy assessment, particularly in first-time cities, where it plays a key role in mobilising local participation and institutionalising planning processes. Political leadership and support at the city level is frequently more important than top-down support from either regional or national governments.

Questions Addressed in This Chapter

- Who should be involved in a local economy assessment?
- Is there a standard process that cities should follow?
- How often should cities conduct an assessment?
Once the local economy assessment is embedded in the city’s strategic planning process, the role of politicians evolves. Cities with long-established processes tend to have less active political participation in the assessment phase itself. The political leaders’ role is then to endorse and lead the implementation of the strategy that results from the assessment.

Finally, involving participants from throughout the city is key to a fully integrated local economy assessment and strategy development process. Most cities involve stakeholders through consultation in their local economy assessment and share process outputs with key partners. The depth and breadth of these consultations vary by city, and also depend on the time and resources available. Consultations can take the form of focus groups, workshops, or round table discussions with selected residents and include business and community associations (trade unions and chambers of commerce).
The Role of the Private Sector

The private sector is a critical partner in the local economic development process. Both formal and informal sector firms are not only important contributors, but also key beneficiaries of LED strategies. Cities that involve the private sector from the beginning of the assessment process benefit in important ways, including:

**Better data and insights**

Private sector firms and business associations often have existing data and other information that is valuable to the local economy assessment process. For example, local and foreign investors typically conduct detailed site selection research that can provide data inputs on the local economy—in addition to benchmark data on other regions. And many large firms conduct market research on the regional economy that can be of use for the assessment. Private sector surveys are also of primary importance in compiling fundamental data on employment and output, especially for the informal sector. Finally, private companies often have unique insight into the factors that help or hinder the competitiveness of the local business environment. Tapping into this knowledge—through surveys and participatory processes—is critical to developing an effective local economy assessment.

**Improved implementation**

The private sector also plays an important role in implementing LED strategies—through financing, facilitation, and direct participation. In fact, in many cities the private sector takes the lead on most economic development initiatives. Getting the private sector involved from the beginning helps ensure effective participation in strategy development and implementation plans, and boosts investor confidence.

**Better informed private sector**

Much of the data compiled by local governments as part of the local assessment process (especially as it relates to economic structure, human capital, and local endowments) can be used by firms in their own strategy processes, for example, to attract investment and assess the market.
CASE STUDIES

The Role of Political Leadership: Three Case Studies

**MEDELLÍN (Colombia)**

The mayor and the municipal government have strengthened the local economy assessment and strategy formulation process in Medellín in three ways. First, the mayor has revived the Strategic Plan for the Metropolitan Area of Medellín, the city’s key long-term strategic planning tool. Initially created in 1995, the strategic plan was abandoned due to lack of local capacity and political commitment. Second, under the political leadership of Medellín, various monitoring mechanisms (including the creation of Quality of Life Index to monitor poverty trends), have been put in place. Third, the municipal government has invested substantial resources in building strategic in-house analytical capacity, through scenario planning and constructing city-level GDP, in an effort to ensure that the process does not falter again because of lack of local capacity.

**POZNA´N (Poland)**

Both the mayor and deputy mayor of Pozna´n have been actively involved in the local economy assessment and strategic planning processes since Poland’s transition from communism in the early 1990s. Key roles have included leading stakeholder participation by chairing stakeholders’ meetings, establishing the Strategy Development Council, and developing partnerships with local research institutions (through establishing the Quality of Life Centre at the Institute of Sociology at Adam Mickiewicz University, for example, which now conducts Pozna´n’s annual quality of life survey). Managing the local economy assessment and strategy development process is now a formal part of the deputy mayor’s responsibilities, and he has also participated in international fact-finding missions and city networks to improve knowledge exchange and ensure best practices in developing local institutions.

**SAN FERNANDO (Philippines)**

Mayor Mary Jane Ortega was elected to lead San Fernando when it became an official city (under the municipal structure of the Philippines) in 1998. Seeing the potential value of a city development strategy (CDS), she played an active role in ensuring that San Fernando was one of seven cities to be chosen for the Philippines’ first CDS pilot (1999–2000). Once the city’s participation was ensured, the mayor led the process from start to finish — appointing a CDS team, actively facilitating the local economy assessment, and leading critical stakeholder participation sessions. The mayor has greatly expanded the role of the CDS, now in its third cycle, to facilitate strategic planning at the barangay (village) level and across key stakeholder groups in the city (including business, women, and young people). The mayor continues to play a key leadership role in promoting CDS (through participation in many conferences and seminars in both the Philippines and abroad), but she also remains actively involved in the local assessment process by chairing stakeholder participation sessions.

**STAKEHOLDER COORDINATION IN THE CDS PROCESS**

Successful city development strategies involve as many stakeholders as possible in the design and implementation stages. This implies the need for greater coordination and for governance structures. First, vertical coordination is needed among the institutions concerned with the development process. This requires a synchronisation of effort at local, regional, national, and, in some cases, supranational levels of government in addition to a coordination of development strategies of these stakeholders. This leads to multilevel processes of governance, which are essential to the success of local-level development strategies.

Second, the emphasis on participation in the CDS requires horizontal coordination among key players in both local civil society and local public institutions. Therefore, complex governance processes must be reproduced at the local level. The key stakeholders will vary from one city to another but in most cases will include civic groups (voluntary and nongovernmental associations); economic actors (business owners’ associations, trade unions, and chambers of commerce); and political players (political parties and local government institutions). Implementing this type of horizontal coordination empowers local societies.

Third, the interaction among local authorities from neighbouring communities is another form of horizontal coordination. This type of coordination is especially relevant in cases of under-bounded structures of government in which a political entity’s administrative divisions are smaller than its area of socioeconomic influence. In these cases, coordinating the efforts of neighbouring administrative units is even more important (to guarantee the viability of the CDS).
BOX 1.2 Participation Approaches

Consult stakeholders and disseminate information—TORONTO (Canada)

Toronto targeted a wide range of stakeholders for consultation during its local economy assessment and city strategic planning process. This involved three main stages of consultation:

1. Business perspectives. As a starting point for the 2000 strategy, more than 400 business and community representatives participated in a series of six breakfast roundtable discussions designed to capture the business community’s perspective of the city’s strengths and the challenges it faces. Groups from different business sectors were seated together at tables and participated in a brainstorming and feedback process, based on questions posed by the city’s Economic Development Division. The output of this process was a published report, *Growing Toronto’s Economy: Business Perspectives*, which presented the participants’ comments. This document was then distributed to all participants, business associations, labour groups, and government agencies (at the city, provincial, and federal levels) for further input.

2. Targeted consultation. While the major research phase of Toronto’s assessment was being conducted, a second round of participatory consultation was initiated. This involved two main activities. First, a series of consultation sessions with specific groups with common interests (for example, sector groups and/or business associations) were held to get further input regarding the assessment of challenges and opportunities in their sectors. Second, an ongoing process of one-on-one interviews with key business and community leaders was initiated in order to identify practical solutions to the key challenges identified.

3. Validation of strategy. After a draft strategy was developed, it was circulated to all key participants of previous consultations for review and comment.

Involve stakeholders in local economy assessment, strategic planning, and decision-making—SAN FERNANDO (Philippines)

A key part of the ongoing assessment process in San Fernando involves public consultations with key stakeholders. The main purpose of these participatory activities is to collect data and perceptions about the local conditions and establish priorities for the city development strategy. The initial CDS process established the representative structures that enabled participation by key stakeholders in the city, including: representatives of the national government, nongovernmental organisations, academia, churches and religious groups, and organisations representing special constituencies (the agricultural sector, senior citizens, women, and young people). Since completion of the initial strategy in 2000, participatory public meetings in San Fernando have expanded substantially, so that this is now seen as a continuous process, not one tied to the CDS. On average, each group is involved in some participatory forum every quarter. These include workshops, writers’ shops, focus group discussions, and general assemblies. An interactive Web page was set up to facilitate stakeholder participation.

Devolve responsibility to stakeholders—KARU (Nigeria)

The strategy resulting from the CDS process in Karu in 2002 was based on inputs from a group of informal sector firms that subsequently formed the Business and Economic Development Committee (BESC). There were two main reasons for devolving strategy formulation responsibilities to informal sector businesses in Karu. First, in light of the ambiguous mandate of local government authority, mobilising the private sector by involving it in strategy development was believed to create the environment needed for a long-lasting effect on strategic planning. Once local government was in a better position to lead strategic planning efforts, an already organised private sector would be in place to contribute. Second, a study of the local economy revealed that the informal sector was, by far, the most important contributor to GDP and employment in Karu. Including the informal sector would help ensure broad stakeholder participation since so many among the local population belong to this category. The resulting strategy was, therefore, addressed to the overall population whose livelihoods were tied to the informal sector. This approach was seen as successful because it guaranteed both broad-based participation in the strategy development process and institutional capacity building.
Further Information

To learn more about the importance of stakeholder participation and participation methods, see:

- Participatory issues identification presented on page 71 of this Resource Guide.
- Most of the other toolkits listed in this Resource Guide also deal with participatory approaches (see appendix A for a full list of toolkits).

CASE STUDY

Managing Participation—BOBO-DIOULASSO (Burkina Faso)

In cities where the institutional capacity is weak or still developing, stakeholder participation can provide a way to ensure input into the CDS and generate the vision, empower local society and make the development process more inclusive. This has been the case in Bobo-Dioulasso, where an extensive participatory process was implemented, during what was known as the consultation and dialogue (or participation) phase of the CDS. Stakeholder participation was achieved through three channels:

- **Workshops.** Meetings where small groups of key local stakeholders met to gather and exchange information and opinions about the local economy and the CDS.
- **Seminars.** Small gatherings mainly aimed at presenting the assessment of the local economy to local stakeholders and the population in general. Seminars were also useful in identifying priorities and strategies.
- **Fora.** Larger gatherings where stakeholders discussed the vision and strategy.

The emphasis on participation in Bobo-Dioulasso had important advantages but drawbacks as well. It helped make the process more transparent and open, and empowered large groups of the population that would otherwise have had no voice in the project. It also represented a milestone in institution building and the development of civil society. Finally, the emphasis on participation yielded important benefits in terms of information gathering and helping to shape the vision. But the high level of stakeholder participation had drawbacks. The process was time consuming because the views of groups were wide ranging, which complicated the tasks of identifying development priorities and drafting the vision statement. Broad participation brought benefits in terms of capacity building but lengthened the LED strategy process. Most cities face similar challenges in making the local economy assessment and strategy development process participatory, because there are practical trade-offs in terms of time and effort to make it fully inclusive.
The breadth and depth of stakeholder participation needed by the city depend on the local context. Extensive participation can be crucial in situations such as the following:

- City representatives are in the initial or early stages of establishing the local economy assessment process. In this context stakeholder participation can help city administrators to access critical information and perceptions about the local economy and fill data gaps. But perhaps more importantly, stakeholder participation can help to build broad political support, in order to facilitate implementation of the strategy and support the institutionalisation of the assessment process.

- The city’s local economic strategy approach has strong horizontal linkages. In cases like this, the city will need to involve the stakeholders who can look beyond the purely economic component and understand wider processes that can, for example, protect and sustain the urban environment, alleviate poverty, support social development, and foster democratic governance.

## Is There a Standard Process That Cities Should Follow?

A successful local economy assessment can be conducted in a variety of institutional settings. Broadly speaking, there are three local economy assessment models: one with a dedicated urban LED department, one with a multipurpose LED capacity, and one with an ad hoc LED task force.

Cities that have a dedicated LED capacity typically have a centralised LED team that operates within local government. This team has the overall responsibility, capacity, and budgeted resources to conduct regular local economy assessments and strategic planning processes. Often this team also acts as a service provider for economic data and analysis for other city departments or agencies, and may coordinate the activities of other economic development agencies for the city (such as promoting investment or marketing the city). These formal units tend to be resourced with a small number of full-time employees.

### Box 1.3 Models of Institutionalising the Local Economy Assessment

1. **Dedicated LED capacity—Munich (Germany)**

   In Munich, the Department of Labour and Economic Development has played the lead role within the city administration for economic development. The Department of Labour has five principal divisions and combines economic development, business support, and tourism promotion under one roof. The Division for Economic Development and Employment Strategies has lead responsibility for conducting the local economy assessment and economic strategy development. The department currently employs 3.5 full-time equivalent staff. Apart from conducting the city’s economic competitiveness assessment, the Department for Economic Development also functions as an ad hoc think tank for Munich’s city council.

2. **Multipurpose LED capacity—Medellín (Colombia)**

   Medellín does not have one department or unit in charge of LED. Instead, the city draws on the capacity and expertise of staff from across the municipal administration, including advisors linked to the mayor’s office, and the departments of education, social development, and planning. The use of these staff in the local economy assessment and strategy development process is coordinated by the Prospective of the City, a subdepartment of the Planning Department responsible for strategic planning. The city’s LED capacity is organised in this way, in part, because Medellín sees competitiveness as the result of many different factors (institutions and economic assets, for example), so a wide range of expertise is needed to develop strategies for greater competitiveness.

3. **Ad hoc LED task force—Bobo-Dioulasso (Burkina Faso)**

   Ad hoc task forces can help cities overcome a lack of institutional capacity during the local economy assessment process. Staffed by local and/or external experts, an LED task force can act as a catalyst for the process and help stimulate stakeholder participation. This was the approach taken in Bobo-Dioulasso, where a core team of experts was selected. The team included a facilitator (or team leader, in this case a professional educator), an economist/statistician, a geographer/planner, and a sociologist with a specialisation in the sociology of organisations and action.
In comparison, cities with multipurpose LED capacity may have a number of staff with LED expertise and responsibility (in data collection, data analysis, or strategy process management, for example), who may work in a number of departments within the local administration. These employees are typically staffed part-time on ongoing LED activities, but staffing levels can be increased for the annual or other regular local economy assessment cycle (or for any special strategic planning analyses).

But many cities are not in the position to retain dedicated LED staff, so they form an ad hoc LED task force. In these cases, suitably qualified staff members from within the city administration are typically seconded to the task force, but the local economy assessment is often contracted out to (or supported by) third-party LED specialists.

The feasibility of the models described in box 1.3 is typically driven by three main considerations: the availability of local capacity to fill posts, sustained funding, and the breadth of the city’s strategic planning responsibility. Many cities conducting a local economy assessment for the first time establish an ad hoc LED task force and gradually build a more formal and permanent institutional capacity over time.

But building institutional capacity can be challenging. One interesting approach that has emerged in recent years to address the challenges has been city networks. These are organisations that link cities for the purposes of learning, benchmarking, training, and a range of other activities. Many cities actively participate in such networks at the national and international levels. The following are examples of city networks:

- **South African Cities Network (SACN)—Durban** (eThekwini Municipality) is a member of this network of the nine largest cities in South Africa. The SACN facilitates and supports CDS and Integrated Development Planning (IDP), South Africa’s strategic planning framework for local and provincial government processes, as well as a wide range of other policy, financing, and development issues. The network also supports cities through training, capacity building, and peer review activities.

- **National CDS Learning Network (CDSEA) in the Philippines**—The CDS network in the Philippines was established within the League of Cities of the Philippines following their launch of CDS in 1999 and has become the lead organisation for promoting the development and institutionalisation of CDS countrywide. They employ a small, dedicated team responsible for facilitating CDS processes, and for developing toolkits, analytical frameworks, and training programmes for cities undertaking the CDS.

- **EUROCITIES Network and COMPETE Network**—Glasgow and Munich are members of these two EU-wide networks. These networks facilitate the sharing of benchmark data and dialogue among practitioners and policymakers on key theoretical and policy issues facing cities in Europe.

(For information on other city networks around the world, refer to appendix C of this Resource Guide.)

Institutionalising the local economy assessment within the context of budget constraints can be challenging, so city networks provide an opportunity to leverage scale economies and facilitate effective learning exchange.

Local government associations also participate in the capacity building of local and regional governments to:
Create linkages between association members and international and national donor organisations to fund LED programmes;
Facilitate the exchange of experiences between cities; and
Publish manuals, toolkits, and best practice case studies.

Examples of local government association activities include:

- **Local Government Denmark**—Copenhagen is a member of Local Government Denmark (LGDK). To strengthen local government, LGDK lobbies central government, assists individual municipalities with advice and other services, and works to ensure that municipalities have access to timely and relevant information. Their areas of expertise include economics, taxation, and business and regional development (http://www.kl.dk).

- **League of Cities of the Philippines**—San Fernando is a member of the League of Cities of the Philippines (LCP). LCP aims to ensure effective governance and service delivery, and strengthened institutional capacity through collective action and learning across cities. LCP provides support promoting partnerships, education and training, and representing the needs of cities to national government.

- **Association of Ukrainian Cities**—Ivano-Frankivsk is a member of the Association of Ukrainian Cities (AUC). AUC supports local government members on a range of topics, including socioeconomic development, by promoting local government interests to the central government. They conduct research and collect relevant statistical information for dissemination among member cities, help train municipal staff, and create linkages between members and international donor organisations (http://www.auc.org.ua/).

- **Association of Polish Cities**—Poznań is a member of the Association of Polish Cities (APC). Besides lobbying the interests of its members, APC supports its member cities by linking them and potential investors through

### BOX 1.4 Local Economy Assessment Publications

**TORONTO (Canada)**

Toronto produces a monthly City Economic Indicators bulletin that provides updates on a range of data, including population, employment, and property trends (permits, construction, pricing); financial activity; social conditions; retail; transport; innovation; and the environment.

**MUNICH (Germany)**

Munich publishes an annual economic assessment (Münchener Jahreswirtschaftsbericht), which provides an overview of the wider economic context in Germany and recent economic trends and key indicators about the local economy. These data allow city planners to track development trends in the labour market and in key sectors of the local economy.

**POZNAŃ (Poland)**

The city of Poznań publishes an annual update of indicators on economic and social factors in the city, in addition to results of its annual Quality of Life survey.

**GLASGOW (Scotland)**

The city of Glasgow conducts an annual economic audit that is an independent analysis of its economy and labour market. The audit provides not only a general economic overview of the city’s economy but also reports on progress against specific targets set in the city’s economic strategy. The city also releases an economic monitor review twice per year, prepared by the Development and Regeneration Services of the Glasgow City Council and Scottish Enterprise Glasgow. The semi-annual review is intended to update board members and key stakeholders on trends and developments in the local economy and to provide the basis for developing and monitoring economic and employment strategies and projects. It has also been a valuable document for potential investors. The monitor provides a range of quantitative information on the city-region economy, as well as detailed qualitative information on investments, divestments, and general news about key firms in the city.
trade fairs, surveys, and research on topics including investment climate. APC also fosters communication between its members and international donor organisations (http://www.zmp.poznan.pl/).

**How Often Should Cities Conduct an Assessment?**

Even though the institutional models differ, many cities try to firmly embed the local economy assessment in their existing management and planning processes. This means making the assessment a regular ongoing process within the city’s planning activities. The benefits of sustaining the effort through regular planning are significant. Through sustained effort over time, cities build a base of longitudinal data, derive a deeper understanding of the local economy and its drivers, establish stronger ties with local stakeholders, and achieve better responsiveness through the ongoing monitoring of trends and evaluation of progress against stated objectives.

Many cities with good resources develop or update their economic development strategies every three to five years, and augment the process by a comprehensive assessment of the local economy and an additional programme of customised research. However, these are special assessments. An ongoing local economy assessment is a routine process considered to be one of the most important responsibilities of groups involved in city strategy development. Many cities conduct at least a basic update of their local economy assessment on an annual basis, and often develop a standardised set of assessment products throughout the year (see box 1.4).

Regular monitoring of local economy data, combined with an ongoing review (or scanning) of key trends in both the national and global economies and in the academic and policy fields, is important to establish the city’s agenda in each strategy cycle. This broad review of data and trends also helps cities to define the focus for more specific assessments they may want to undertake in order to expand their knowledge in areas of strategic priority.
Chapter 2 focuses on ways cities can identify socioeconomic indicators to track for the local economy assessment. It also presents ideas on how to organise the data collection process.

Identifying relevant data is key to managing an effective and efficient local economy assessment, and there is a wide range of both data and data resources that can inform the assessment. Some, however, are easier to use than others. Determining a city’s data requirements involves upfront problem structuring and practical trade-offs in terms of cost and effort to obtain data.

A host of factors can affect the competitiveness of a city-region, and these should be taken into account in designing local economic development strategies. Four categories of indicators about the local economy, or “LED indicators,” are typically measured and monitored in the strategic planning process:

- **Economic structure**: Indicators that focus on the size and sectoral structure of the economy of the city and its outlying communities;
- **Local endowments**: Indicators that focus on territorial-specific factors which influence competitiveness, including resources and market access, property, transport, and other infrastructure;
- **Human capital**: Indicators that focus on key characteristics of the local population and labour force, including employment status and education levels, which are increasingly the main factors that drive local competitiveness; and
- **Institutions**: Indicators that focus on the softer determinants of competitiveness, which relate to the quality and effectiveness of government and informal institutions.

Although difficult to measure, institutional factors are increasingly recognised as critical factors in the investment climate.
The type and importance of indicators in these four categories are discussed in greater detail in the sections that follow. Relevant indicators of suggested LED indicator “menus” for different city contexts are presented as well.

What Data Are Needed in a Local Economy Assessment?

The assets of a city—its economic fabric, local endowments, and human resources— influence the potential success of proposed development strategies. Inadequate or insufficient skills, poor accessibility, and a weak and largely noncompetitive industrial fabric are factors that may seriously undermine the positive effect of even the best development strategies. In addition, local institutions are now widely recognised as playing an important role in local economic development. The roles of institutional capacity building and institutional leadership are now regarded as essential elements for equitable growth, employment creation, and poverty reduction. Therefore, an understanding of urban assets and institutions is central to the local economy assessment.

There are clearly many issues to be considered and a range of data can be collected to help practitioners and policy makers understand the socioeconomic development assets of a city. But how can they determine what is most important? This section explores two approaches that can help with this decision: upfront problem structuring and cost-benefit analysis.

There is no standard set of LED indicators used by cities. The focus, breadth, and depth vary substantially with development level and the availability of resources and experience. However, many cities do share a focus on data that can help them to understand their economic structure and human

<table>
<thead>
<tr>
<th>Local Indicators — A good starting point</th>
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<tbody>
<tr>
<td>Many cities base their local economy assessment on a core set of LED indicators:</td>
</tr>
<tr>
<td>Economic structure</td>
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<tr>
<td>- Size of the economy</td>
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<tr>
<td>- Sectoral structure and specialisation</td>
</tr>
<tr>
<td>- Exports</td>
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<tr>
<td>- Firm structure and dynamism</td>
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<tr>
<td>Local endowments</td>
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<tr>
<td>- Transport infrastructure</td>
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<tr>
<td>- Availability and quality of land and premises</td>
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<tr>
<td>- Cost of utilities</td>
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<tr>
<td>Human capital</td>
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<tr>
<td>- Demographics</td>
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<tr>
<td>Institutions</td>
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<tr>
<td>- Local business enabling environment</td>
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<table>
<thead>
<tr>
<th>National Indicators — Understanding the wider context</th>
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<tbody>
<tr>
<td>In addition to the monitoring of data at the local economy level, it is also important to understand the wider national context, which is likely to influence the state of the local economy. Many cities also monitor the national economy in a range of areas, especially:</td>
</tr>
<tr>
<td>Economic structure</td>
</tr>
<tr>
<td>- Overall size and growth</td>
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<tr>
<td>Institutions</td>
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<tr>
<td>- Governance (including rule of law, transparency, and accountability)</td>
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<table>
<thead>
<tr>
<th>Local endowments</th>
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<tr>
<td>- Transport and utilities infrastructure</td>
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<td>- Financial infrastructure</td>
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<tr>
<th>Human capital</th>
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<tr>
<td>- General demographics</td>
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<td>- Education and income</td>
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<th>Institutions</th>
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<tr>
<td>- Governance (including rule of law, transparency, and accountability)</td>
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</table>
capital, and a secondary concern with a narrower set of LED indicators on local transport and infrastructure endowments and institutions.

In addition, some cities find it useful to track a number of socioeconomic indicators at the regional and national levels as well. This wider context is likely to influence the state of the local economy in a city. Box 2.1 indicates the areas in which data can be collected at the local and national levels.

The economic profile and strategic priorities of the city and the particular development challenges it faces will determine what additional data should be considered. For example, a port city may find that the most important data are related to cargo capacity and the quality and quantity of complementary infrastructure. On the other hand, for a research and development intensive economy, the availability of venture capital, the quality of educational institutions, and the quality of life factors needed to attract and retain highly skilled workers are likely to be most important.

Therefore, practitioners and policymakers base the competitiveness assessment on variables that are most relevant to the urban economy in question, rather than covering all aspects and measures of the local economy. This upfront problem structuring can be important in identifying the indicators that are most relevant to the city. Glasgow (Scotland), for example, has developed the interesting approach described in the case study on page 19.

Practical trade-offs must always be made regarding the cost and effort required to obtain relevant data. This often requires a balance between the level of detail and accuracy desired and the time and money available for the assessment. Examples of how some cities have attempted to strike this difficult balance are presented in the tips box on page 20.

CASE STUDY

Targeted Data Collection: GLASGOW’s Ongoing Review and Vision Development

The city of Glasgow began its new economic strategy process in 2006 by asking: What makes this city competitive? The idea was to "understand the key bits of the jigsaw puzzle" that would determine the quality of development in the city. Based on a review of key trends in the local, national, and global economies, 17 issue areas were identified for research, including jobs, unused industrial brownfield land, the knowledge economy, and skills. A framework for analysis was developed by asking other questions: Why is this issue important? How effective is this city today? What needs to happen to achieve a step change? Regarding the collection of data on the local economy, the Glasgow framework specifically asks: What are the critical gaps in existing knowledge on the issue? How will these knowledge gaps be filled—through which methodology, through primary or secondary research (including surveys, focus groups, interviews, desk research, and so forth)?

The city later conducted targeted research, data gathering, and interviews with key champions on each of these issues, which led to a series of issues papers designed to identify the key challenges, ask strategic questions, and begin to define strategic priorities. The issue papers were then pulled together under three broad headings (people, places, and businesses) and presented in workshops attended by 60 to 70 key stakeholders in the city. The workshops asked a series of framing questions designed to solicit input rather than suggest any defined answers at this early stage of the process. Inputs from the workshops were combined with the existing economic data to drive the strategy development process.
What Data Are Right for a Particular City?

As discussed earlier, selecting which LED indicators to collect involves making practical trade-offs with regard to resource availability. Tables 2.1 and 2.2 provide two menus of LED indicators that can help cities understand their local economy. One menu is suitable for cities with limited resource availability; the other is more suitable for cities with good resource availability.

What Menu Is Right for a Particular City?

For cities with limited resource availability, the menu of LED indicators in table 2.1 is a good place to start; they

Tips

1. Verify upfront which data are easily and reliably available.
   Many cities first draw up a "wish list" of LED indicators and then check to see which of these are readily available—and whether the sources provide quality data. For example, in Ivano-Frankivsk (Ukraine), data availability was a key criterion in selecting the LED indicators to include in their community profile and the local economy assessment. At the outset of the assessment process in 2005, consultants prepared a long list of LED indicators. These indicators were then discussed with local LED staff at Ivano-Frankivsk’s city hall and with the United States Agency for International Development’s LED team. Data availability from local, regional, and national statistics offices was vetted also. This prioritisation exercise resulted in a narrow but achievable set of LED indicators to be tracked for the city’s community profile.

   In San Fernando (Philippines), a key strategy in the design of the Urban Karte (city indicators) by the League of Cities of the Philippines has been to develop indicators so cities can draw on existing data sets and survey instruments to conduct competitiveness assessments rather than duplicate the data collection process. Many of the indicators used in city development strategies (CDSs) are measures that the local government units are required to collect as part of other processes. For example, much of the data on households and basic services provision are available through the nationally mandated Minimum Basic Needs (MBN) Survey, and other indicators are captured through the existing Local Governance Performance Measurement System.

   To control costs, the 15 cities in the reference group for this Resource Guide acquired about 80 percent of their LED indicators from municipal, regional, and national statistics.

2. Coordinate with other economic development actors.
   Often data collected for a local economy assessment can be useful to other economic development actors in the city or region. This is especially the case for data on promoting investment and marketing the city. So it is probably worthwhile to find out if these data are already being collected by local entities. If not, it may be possible to combine capacity and budgets to collect the data.

3. Cast a wide net.
   There is a wealth of economic information that can be accessed from third-party research reports, surveys, and academic papers. Clearly some higher income cities may find such data easier to obtain. The drawback of third-party data is that it may not be tailored to the city’s needs and it may not be possible to see the definitions being used, a particular problem with city rankings. However, data from these sources may provide a good approximation.

4. Tap into local knowledge and expertise.
   Local stakeholders such as business associations, chambers of commerce, research foundations, and social organisations may also be able to provide data and insights.

5. Streamline the data collection process.
   A number of cities in the reference group discussed in this Resource Guide have adopted streamlined processes that enable them to collect data efficiently. For example, Munich (Germany) has implemented a highly standardised process of data collection for its annual local economy assessment. This assessment focuses on a narrow range of LED indicators, and Munich’s Department for Labour and Economic Development has designed templates that specify the desired data definitions and format. In February of each year, these templates are sent to the various data sources, including the regional statistics office and the Munich airport. Good communication with key data providers enables the city to ensure timely completion of the data collection process.
might then broaden (or deepen) the local-level data collection to include areas that seem particularly relevant based on an initial assessment. If data availability is generally high and the city can draw from a reliable local base of technical knowledge and other resources, the menu for good resource availability (table 2.2) is likely to be suitable.

The indicators marked as “primary” (in tables 2.1 and 2.2) can help form the solid foundations for an effective local economy assessment. The secondary indicators can help cities elaborate a more detailed picture of the local economy.

The LED indicators presented in table 2.2 can help planners, practitioners, and administrators to understand the local economy in a city with relatively good access to resources.
### Table 2.1 LED Indicator Menu for Cities with Restricted Resource Availability

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Primary indicators</th>
<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic structure</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Size of economy</td>
<td>■</td>
<td></td>
<td>Total employment levels</td>
</tr>
</tbody>
</table>
| Sectoral structure and specialisation | ■ |                      | Share of GDP by sector (output and employment)  
  - Versus national structure  
  - Changes over time          |
| Exports                   |                   |                      | Percent of employment from local firms versus from FDI |
| Interfirm linkages        | ■                 |                      | Existence of industry clusters   |
| Firm structure            | ■                 |                      | Total number of firms (by sector and over time) |
| Productivity              | ■                 |                      | Regional or urban economy productivity measures (overall and by sector)  
  - Total factor productivity  
  - Capital productivity  
  - Labour productivity     |
| Investment                | ■                 |                      | Total number and size (value, employment) of inward investment  
  - By firm size and sector  
  - Share from domestic sources versus FDI |
| Entrepreneurship          | ■                 |                      | Number of new business start-ups (by size, sector) |
| Informal economy*         | ■                 | ■                   | Size of informal economy (overall and by main sector: primary, secondary, tertiary)  
  - Employment (overall and percent nonagricultural employment)  
  - Total number firms (broken down by size: own account, less than 10 employees, greater than 10 employees) |
| **Local endowments**      |                   |                      |                                  |
| Natural resources         | ■                 |                      | Employment output, employment, and export levels for key natural resources-intensive industries* |
| Location and market access| ■                 |                      | Total scale and scope of local market and accessible catchment area (defined as within x kilometres of local area)  
  - Total market size (GRDP, population)  
  - Population density  
  - Average income levels (overall, disposable) and income distribution     |
| Infrastructure—transport  | ■                 |                      | Inventory and profile of key transport infrastructure |
| Infrastructure—property   | ■                 |                      | Availability and quality of land and premises (by type and size: industrial, commercial, retail, R&D, and so forth)  
  - Existence of business parks  
  - Capacity and vacancy levels     |
### TABLE 2.1 LED Indicator Menu for Cities with Restricted Resource Availability (continued)

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Primary indicators</th>
<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
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</thead>
<tbody>
<tr>
<td><strong>Local endowments</strong> (continued)</td>
<td></td>
<td></td>
<td>Quality and cost of housing stock</td>
</tr>
<tr>
<td>Infrastructure—property (continued)</td>
<td>■</td>
<td></td>
<td>Average prices and affordability (change over time)</td>
</tr>
<tr>
<td>Infrastructure—utilities</td>
<td>■</td>
<td></td>
<td>Cost and quality of services to local population and businesses (electricity, water, waste water disposal, solid waste collection, telecommunications)</td>
</tr>
<tr>
<td>Infrastructure—financial</td>
<td>■</td>
<td></td>
<td>Average monthly cost</td>
</tr>
<tr>
<td>Infrastructure—educational</td>
<td>■</td>
<td></td>
<td>Availability of local finance to businesses</td>
</tr>
<tr>
<td>Cultural infrastructure, amenities, and quality of life</td>
<td>■</td>
<td></td>
<td>Cultural amenities (such as movie theatres, theatres, music halls, sports facilities, libraries)</td>
</tr>
<tr>
<td><strong>Human capital</strong></td>
<td></td>
<td></td>
<td>Population levels and distribution (current and change over time) by:</td>
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<tr>
<td>Demographics</td>
<td>■</td>
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<td>Age</td>
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<td>Race/ethnicity (if relevant)</td>
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<td>Number and distribution of households</td>
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<tr>
<td>Immigration and emigration levels (current and change over time) by:</td>
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<td>Age</td>
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<td>Race/ethnicity (if relevant)</td>
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<td>Gender</td>
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<td></td>
<td>Educational attainment</td>
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<tr>
<td>Personal and social well-being (current and change over time):</td>
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<td>Life expectancy at birth</td>
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<td></td>
<td></td>
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<td>Marriage and divorce rates</td>
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<td></td>
<td>Death rates</td>
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<td></td>
<td>Rates of key illnesses/diseases</td>
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<td></td>
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<td>Crime rates (the number per 1,000 that have been a victim of crime)</td>
</tr>
<tr>
<td>Employment and income</td>
<td>■</td>
<td></td>
<td>Employment levels (current and change over time) by sector and/or type of occupation (professional, technical, semi-skilled):</td>
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<tr>
<td></td>
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<td></td>
<td>Total levels</td>
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<td></td>
<td></td>
<td></td>
<td>Share of total employment</td>
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<tr>
<td>Labour force participation, percent employment and unemployment (current and change over time) by:</td>
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<td>Age</td>
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<td>Race/ethnicity</td>
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<td>Gender</td>
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<td></td>
<td>Sector and/or type of occupation</td>
</tr>
</tbody>
</table>

(continued)
### TABLE 2.1 LED Indicator Menu for Cities with Restricted Resource Availability (continued)

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Primary indicators</th>
<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human capital (continued)</strong></td>
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</tbody>
</table>
| Employment and income (continued) | ■                |                      | Nature/structure of employment (current and change over time) by age, gender, race, ethnicity, sector, and type of occupation  
- Percent in wage income versus self-employed (home workers or subsistence farmers, for example)  
- Percent full-time/part-time/seasonal  
- Spatial structure |
| Education and skills | ■                |                      | Educational attainment levels (current and change over time)  
- Attainment level (number and percent of current workforce and population: primary, secondary, matriculation, technical diploma, university)  
- University graduates, by specialisation (technical/engineering versus business, liberal arts, or other)  
- Current enrolment levels |
| **Institutions** |                    |                      |                                   |
| Rule of law | ■                |                      | Crime, theft, and disorder rates (crime levels per 1,000 population, incidences of major social unrest) |
| Transparency/ accountability | ■                |                      | Stakeholder perceptions of  
- Consistency of officials’ interpretation of regulations  
- Economic and regulatory policy uncertainty |
| Local business enabling environment | ■                |                      | Existence of key LED institutions  
- Economic development department/authority  
- Investment promotion/industrial development agency  
- Other |
| Overall size of city budget (current and change over time)  
- Split by main uses of budget  
- Split by main sources of funds (percent of local tax base versus national/regional transfers or donor funds) |
| Perceptions of government efficiency |                  |                      |                                   |
| Representative institutions | ■                |                      | Number of and membership levels (total and share of relevant population) in representative institutions (current and change over time):  
- Chambers of commerce and other general business organisations  
- Unions and other labour organisations  
- Representative organisations for participants in the informal economy  
- Other key civil society organisations |
| Trust, cooperation, and confidence | ■                |                      | Perceived confidence in key institutions (government, police, courts, and so forth) |
TABLE 2.1 LED Indicator Menu for Cities with Restricted Resource Availability (continued)

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Primary indicators</th>
<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
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</thead>
<tbody>
<tr>
<td>Institutions (continued)</td>
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</tr>
<tr>
<td>Distributional arrangements</td>
<td></td>
<td></td>
<td>Income distribution levels by race/ethnicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Percent of public spending on social transfers</td>
</tr>
<tr>
<td>Problem-solving capacity</td>
<td></td>
<td></td>
<td>Incidences of strikes and lock-outs (number of days work lost)</td>
</tr>
</tbody>
</table>

Notes: FDI, foreign direct investment; GDP, gross domestic product; GRDP, gross real domestic product; LED, local economic development; R&D, research and development.

a. In cities where the informal economy accounts for most of the activities, the need to assess it is “high.”

b. This indicator and others under “natural resources” are important to track only when a particular natural resource is a key driver of the local economy (oil, minerals, a specific agricultural crop, fisheries, or timber, for example).

c. These issues may not be directly relevant to the local economy, but they have a significant impact on labour productivity and the quality of life.

TABLE 2.2 LED Indicator Menu for Cities with Good Resource Availability

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Primary indicators</th>
<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
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</thead>
<tbody>
<tr>
<td>Economic structure</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Size of economy</td>
<td></td>
<td></td>
<td>Regional or urban gross domestic product (including GRDP and GGP) over time (overall and per capita)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total employment levels</td>
</tr>
<tr>
<td>Sectoral structure and specialisation</td>
<td></td>
<td></td>
<td>Share of GDP by sector (output and employment)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>● Versus national structure</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>● Changes over time</td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td></td>
<td>Percent of exporting firms (overall, by sector, by firm size)</td>
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<td></td>
<td></td>
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<td>Percent of output exported</td>
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<td>Main export destinations</td>
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<tr>
<td>Interfirm linkages</td>
<td></td>
<td></td>
<td>Existence of industry clusters</td>
</tr>
<tr>
<td>Firm structure</td>
<td></td>
<td></td>
<td>Total number of firms (by sector and over time)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Number of firms by firm size (by output and employment), and by sector</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Profiles of top local firms (by output and employment); output, employment, sector, exports, ties to other firms inside/inside region</td>
</tr>
<tr>
<td>Productivity</td>
<td></td>
<td></td>
<td>Regional or urban economy productivity measures (overall and by sector)</td>
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<td></td>
<td></td>
<td></td>
<td>● Total factor productivity</td>
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<td></td>
<td>● Labour productivity</td>
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<td></td>
<td></td>
<td></td>
<td>● Capital productivity</td>
</tr>
</tbody>
</table>

(continued)
TABLE 2.2 LED Indicator Menu for Cities with Good Resource Availability (continued)

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<tr>
<th>Key categories to monitor</th>
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<tbody>
<tr>
<td><strong>Economic structure</strong></td>
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<tr>
<td>Investment</td>
<td></td>
<td></td>
<td>Total number and size (value, employment) of inward investment</td>
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<td></td>
<td></td>
<td>• By firm size and sector</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Share from domestic sources versus foreign direct investment</td>
</tr>
<tr>
<td>Innovation</td>
<td></td>
<td></td>
<td>R&amp;D expenditure (overall and by sector)</td>
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<td></td>
<td></td>
<td></td>
<td>• Per capita and as percent of GRDP</td>
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<td></td>
<td>• By source (public versus private expenditure)</td>
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<tr>
<td></td>
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<td></td>
<td>Share of firms with R&amp;D activity in the region</td>
</tr>
<tr>
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<td></td>
<td>Patent levels (overall and by sector)</td>
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<tr>
<td>Entrepreneurship</td>
<td></td>
<td></td>
<td>Number of new business start-ups (by size, sector)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Net firm creation rates (new start-ups minus closures)</td>
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<tr>
<td>Informal economy*</td>
<td></td>
<td></td>
<td>Size of informal economy (overall and by main sector: primary, secondary, tertiary)</td>
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<tr>
<td></td>
<td>•</td>
<td></td>
<td>• Employment (overall and percent of nonagricultural employment)</td>
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<td></td>
<td>•</td>
<td></td>
<td>• Output (percent of GRDP and percent of nonagricultural GRDP)</td>
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<td></td>
<td>• Total number of firms (by size: own account, less than 10 employees, greater than 10 employees)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Links to formal sector</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>• Government laws, policy, and initiatives on informal sector</td>
</tr>
<tr>
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<td></td>
<td>Backward and forward linkages with formal sector firms</td>
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<tr>
<td><strong>Local endowments</strong></td>
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</tr>
<tr>
<td>Natural resources</td>
<td></td>
<td></td>
<td>Primary sector output, employment, and export levels (per capita and as percent of GRDP)</td>
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<tr>
<td>Location and market access</td>
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<td>Total scale and scope of local market and accessible catchment area (defined as within x km of local area)</td>
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<td></td>
<td>•</td>
<td></td>
<td>• Total market size (GRDP, population)</td>
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<td></td>
<td>• Population density</td>
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<tr>
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<td></td>
<td>• Average income levels (overall, disposable) and income distribution</td>
</tr>
<tr>
<td>Infrastructure—transport</td>
<td></td>
<td></td>
<td>Scale and scope of transport infrastructure (current and change over time); not all of the following are relevant in all regions</td>
</tr>
<tr>
<td></td>
<td>•</td>
<td></td>
<td>• Roads: total km of road network and motorways, number of passengers/journeys made, average travel times between key locations</td>
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<td></td>
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<td></td>
<td>• Rails: total km of rail network and main line track, number of passengers/journeys made, average travel times between key locations, size and average age of rolling stock, percent of on-time arrivals</td>
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<td></td>
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<td></td>
<td>• Ports: number of berths, capacity, number of arrivals/departures, average clearance time, connections, and travel times to key locations</td>
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<td></td>
<td></td>
<td></td>
<td>• Airports: Number of slots, flight capacity, number of arrivals/departures, connections to key locations, number of passengers carried, amount of cargo carried</td>
</tr>
<tr>
<td>Key categories to monitor</td>
<td>Primary indicators</td>
<td>Secondary indicators</td>
<td>Potential indicator(s) to measure</td>
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<tr>
<td><strong>Local endowments (continued)</strong></td>
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<tr>
<td>Infrastructure—transport (continued)</td>
<td></td>
<td></td>
<td>Inventory and profile of key transport infrastructure</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Quality of transport infrastructure (overall and by mode of transport)</td>
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<tr>
<td>Infrastructure—property</td>
<td></td>
<td></td>
<td>Availability and quality of land and premises (by type: industrial, commercial, retail, R&amp;D, and size)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Existence of business parks</td>
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<td>• Average quality level (Grade A+, A, and so forth)</td>
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<td>• Average age of property</td>
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<td></td>
<td>• Capacity and vacancy levels</td>
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<td></td>
<td>Cost of land and premises (current and change over time)</td>
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<td>• Rental or purchase prices</td>
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<td>• Building costs</td>
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<td></td>
<td></td>
<td></td>
<td>Quality and cost of housing stock</td>
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<tr>
<td></td>
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<td></td>
<td>• Distribution of housing stock by value</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Average prices and affordability (change over time)</td>
</tr>
<tr>
<td>Infrastructure—utilities</td>
<td></td>
<td></td>
<td>Cost of services to business (electricity, water, waste water disposal, solid waste collection)</td>
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<td></td>
<td></td>
<td>• Connection cost</td>
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<td></td>
<td>• Average usage rates</td>
</tr>
<tr>
<td>Infrastructure—financial</td>
<td></td>
<td></td>
<td>Cost and quality of services to local population (electricity, water, waste, telecommunications)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Share of households connected to utilities</td>
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<td></td>
<td>• Average monthly cost of utilities (as share of income)</td>
</tr>
<tr>
<td>Infrastructure—educational</td>
<td></td>
<td></td>
<td>Availability of local finance to businesses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Number of bank branches (per capita)</td>
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<td></td>
<td>• Share of credit from formal/informal sources</td>
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<td></td>
<td></td>
<td></td>
<td>• Availability of venture capital (number of funds operating in the region and value of funds)</td>
</tr>
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<td></td>
<td></td>
<td>• Availability of microfinance (number of schemes operating in region and value of loan funding)</td>
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<tr>
<td>Cultural infrastructure, amenities, and quality of life</td>
<td></td>
<td></td>
<td>Local cost structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Affordability of housing</td>
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<td></td>
<td></td>
<td></td>
<td>• Cost of living</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Taxes (corporate, personal, property, other)</td>
</tr>
<tr>
<td>City image</td>
<td></td>
<td></td>
<td>Perceptions of the city/city-region in media and among potential investors and workers</td>
</tr>
</tbody>
</table>

(continued)
## TABLE 2.2 LED Indicator Menu for Cities with Good Resource Availability  

(continued)

<table>
<thead>
<tr>
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<th>Secondary indicators</th>
<th>Potential indicator(s) to measure</th>
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<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>•</td>
<td>•</td>
<td>Population levels and distribution (current and change over time) by:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Age</td>
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<td></td>
<td></td>
<td>• Gender</td>
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<td></td>
<td></td>
<td></td>
<td>• Spatial (subregional density levels, especially urban, peri-urban, rural)</td>
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<td>• Race/ethnicity (if relevant)</td>
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<td></td>
<td></td>
<td></td>
<td>• Number and distribution of households</td>
</tr>
<tr>
<td>Immigration and emigration levels (current and change over time) by:</td>
<td>• Age</td>
<td>• Race/ethnicity (if relevant)</td>
<td>Educational attainment</td>
</tr>
<tr>
<td></td>
<td>• Gender</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Spatial (subregional density levels, especially urban, peri-urban, rural)</td>
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</tr>
<tr>
<td>Employment and income</td>
<td>•</td>
<td>•</td>
<td>Employment levels (current and change over time) by sector and/or type of occupation (professional, technical, semi-skilled)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Total levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Share of total employment</td>
</tr>
<tr>
<td>Labour force participation, percent employment and unemployment (current and change over time) by:</td>
<td>• Age</td>
<td>• Sector and/or type of occupation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gender</td>
<td></td>
<td>• Spatial</td>
</tr>
<tr>
<td></td>
<td>• Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature/structure of employment (current and change over time) by age, gender, and so forth (as for labour force participation)</td>
<td>• Percent wage earners (employed by others) versus self-employed versus unwaged</td>
<td>• Percent no longer seeking employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Percent of full-time / part-time / seasonal workers</td>
<td>• Gender, racial, and spatial structure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gender, racial, and spatial structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature/structure of unemployment (current and change over time) by age, gender, and so forth (as for employment)</td>
<td>• Average duration</td>
<td>• Percent of long-term unemployed</td>
<td></td>
</tr>
<tr>
<td>Earnings levels (current and change over time)</td>
<td>• Average weekly or monthly earnings by age, gender, race/ethnicity, educational/skills (by sector)</td>
<td>• Gender, racial, and spatial structure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Average earnings (formal versus informal economy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and skills</td>
<td>•</td>
<td>•</td>
<td>Educational attainment levels (current and change over time)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Attainment level—number and percent of current workforce and population (primary, secondary, matriculation, technical diploma, university)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Mix of university graduates by specialisation (technical/engineering versus business, liberal arts, or other)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Current enrolment levels</td>
</tr>
<tr>
<td>Key categories to monitor</td>
<td>Primary indicators</td>
<td>Secondary indicators</td>
<td>Potential indicator(s) to measure</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule of law</td>
<td></td>
<td></td>
<td>Perception of confidence in legal system</td>
</tr>
<tr>
<td>Transparency/ accountability</td>
<td></td>
<td></td>
<td>Stakeholder perceptions of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Consistency of officials’ interpretation of regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Economic and regulatory policy uncertainty</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perception of corruption levels in government and business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perception of existence of anti-competitive behaviour</td>
</tr>
<tr>
<td>Local business enabling environment</td>
<td></td>
<td></td>
<td>Existence of key LED institutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Economic development department/authority</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Investment promotion / industrial development agency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Overall size of city budget (current and change over time)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Split by main uses of budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Split by main sources of funds (percent from local tax base versus national/regional transfers or donor funds)</td>
</tr>
<tr>
<td>Trust, cooperation, and confidence</td>
<td></td>
<td></td>
<td>Perceived confidence in key institutions (government, police, courts, and so forth)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perceived extent of interfirm cooperation</td>
</tr>
<tr>
<td>Distributional arrangements</td>
<td></td>
<td></td>
<td>Income distribution levels by race/ethnicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Percent of public spending on social transfers</td>
</tr>
<tr>
<td>Problem-solving capacity</td>
<td></td>
<td></td>
<td>Incidences of strikes and lock-outs (number of days work lost)</td>
</tr>
</tbody>
</table>

Notes: FDI, foreign direct investment; GDP, gross domestic product; GGP, general growth properties; GRDP, gross real domestic product; LED, local economic development; R&D, research and development.

a. In cities where the informal sector accounts for most of the activities, the need to assess it is “high.”
Collecting the Data

What Tools Can Cities Use to Collect Data on the Local Economy?

Collecting data on a local economy relies on a wide range of sources, including local and national statistics bureaus and published research and reports. Ideally, data should be accessed through these sources, but it is likely that reliable city-level data will not be available for all LED indicators of interest. In these cases, a range of tools can be used to source quality data not otherwise available.

Questions Addressed in This Chapter

- What tools can cities use to collect data on the local economy?
- What tools are right for a particular city?

What Are Survey Tools?

Survey tools are widely used by government, businesses, and researchers to collect data on the characteristics, preferences, behavioural patterns, and attitudes of firms, organisations, individuals, and households. They are particularly useful in collecting data that cannot easily be obtained from existing sources, for example, statistics bureaus or reports. Rather than conduct a census and collect data on population units such as households or firms, surveys allow researchers to gather information from a small sample number of units and generalise the results for the entire population. Surveys can be both time-efficient and cost-effective, and are a valuable tool for collecting data on the local economy.

After deciding what data to collect on the local economy and identifying available data sources, cities also need to determine how to close any remaining data gaps. There are several data collection tools that can be used for this purpose. Chapter 3 of the Resource Guide presents a number of useful survey instruments and a widely used participatory approach to data collection.
Five broad types of surveys are most relevant to the local economy assessment:

1. Household surveys
2. Industrial structure surveys
3. Informal sector surveys
4. Investment climate surveys
5. Business outlook surveys

There are several methodological issues that need to be considered in the design, execution, and analysis of results for any survey. They are presented briefly below; more detailed information can be found in the sources provided in the further information box in this chapter.

**Compiling a Representative Sample.** Because surveys represent information collected from a small sample of an overall population, the sample should be representative. For a small sample to be representative, all members of the population must have the same chance of being selected. This is called random selection. Alternatively, the sample can be selected according to subdivisions based on socioeconomic or other characteristics, such as age, income, size of firm, and so forth. This sampling technique is referred to as stratified sampling. The sample is ideally drawn from a complete, accurate, and up-to-date register of all units in a population (called a sampling frame) and is typically based on administrative registers or national census data. The size of the sample required to ensure accuracy depends on the complexity of analysis to be conducted and the resources available.

**Designing a Questionnaire.** Survey data are collected using a carefully constructed questionnaire, or survey instrument. To collect data on very specific issues, a new questionnaire may need to be designed (rather than adapted from an existing form). But in many cases, cities can draw on existing questionnaire formats. The questions included are usually a combination of open-ended and closed (multiple-choice or yes/no questions, for example), and the exact structure depends on how the survey will be conducted. Great care should be taken to ensure that the questions are unambiguous and valid (that they measure what the surveyors intend them to measure).

**Executing the Survey.** Most survey data are collected using one or more methods: 1) in writing, by mail or by Internet; 2) telephone interviews; 3) face-to-face interviews; or 4) a combination of written and verbal interviews. Based on the technology available and the cultural norms, choose the method that best fits the circumstances of the city to be surveyed. Include the respondents’ level of comfort with the mechanisms to be used in answering questions and the type of information to be collected. Data are often captured more effectively in written surveys, but written surveys are not always effective in capturing qualitative information and opinions. The survey method chosen will also affect the design of the questionnaire. Interviewers should be well trained and briefed on survey guidelines and requirements.

**Analysing the Results.** Most surveys will require some degree of quantitative analysis of results, particularly large-scale surveys; however, the balance of quantitative versus qualitative analysis will depend on the type of survey being conducted. Survey responses should be coded and put into an analytical framework. Statistical analysis is common in assessing surveys, and presentation of survey results often makes extensive use of graphics and tables.

**What Are Participatory Data Collection Techniques?**

In instances where not enough time or resources are available to conduct a formal survey, participatory mechanisms can provide a useful alternative approach to collecting data on the local economy.
Participatory issues analysis can be particularly effective as a way to involve stakeholders in the local economy assessment and to understand their take on the critical issues affecting the development of a city. This may include identifying the issues constraining the economy at present and/or identifying the opportunities and sources of competitive advantage for the local economy. Seminars and workshops are commonly used for participatory issues identification.

Participatory processes can also be used to collect quantitative data and information about specific aspects of the local economy (such as employment in local firms or links between firms in a specific sector). However, it can be difficult to collect extensive and accurate data in public meetings and seminars, so participatory approaches for data collection can seldom substitute for the collecting of objective hard data and other information collected through statistical sources and surveys.

What Tools Are Right for a Particular City?

Not all data collection tools are likely to be equally relevant or appropriate in surveying the local economy. Trade-offs will be required in terms of the time, resources, and capacity available for the local economy assessment.

The quick reference guide in table 3.1 provides an overview of the relative ease of using six data collection tools in terms of resource intensity, the need for analytical expertise, and the degree of use in city strategies.

Further Information

For more information on general survey methodology and design, see: http://www.sysurvey.com/tips/introduction_to_survey.htm or http://www.whatisasurvey.info/.


For guidelines on questionnaire design, see: http://www.leeds.ac.uk/iss/documentation/top/top2/index.html.

For detailed information on statistical methods and concepts, see: http://www.statsoft.com/textbook/stathome.html.
<table>
<thead>
<tr>
<th>Data collection tools</th>
<th>Description</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household survey</td>
<td>Used to collect a wide range of socioeconomic data on the households in an economy.</td>
<td>$$$</td>
<td>1</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Industrial structure survey</td>
<td>Used to collect firm-level structural data on local firms, including sector, number of employees, and revenue.</td>
<td>$$$</td>
<td>1</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Informal economy survey</td>
<td>Used to collect firm-level structural data on firms in the informal sector.</td>
<td>$$$</td>
<td>1</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Investment climate survey</td>
<td>Used to elicit firms’ perceptions of the local investment climate, including quality of labour, infrastructure, and public services.</td>
<td>$$$</td>
<td>1</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Business outlook survey</td>
<td>Used to collect data on management perceptions of business performance and the overall business environment, including current, forecasts, and intentions for the near future.</td>
<td>$</td>
<td>1</td>
<td>★ ★</td>
</tr>
<tr>
<td>Participatory issues identification</td>
<td>Used to elicit key stakeholders’ perspectives and views on LED issues.</td>
<td>$</td>
<td>1</td>
<td>★ ★ ★</td>
</tr>
</tbody>
</table>

Notes:

**Resource intensity (time and cost): high ($$$), medium ($$), low ($)**

Resource intensity refers to how much time and money must be invested for the use of a tool or framework. Low resource intensity ($) means that the data needed for this type of analysis are generally available, that the analysis itself can be conducted in a relatively short period of time, and that few resources beyond human resources are required. High resource intensity ($$$) means that the data requirements are substantial, the analysis is time-consuming, and in many cases other resources may be required (costly software programs, for example).

**Need for analytical expertise: high (★★★★), medium (★★★), low (★★)**

Analytical expertise refers the need for in-house or external expertise in the design or execution of the analytical tools and frameworks. Low need for analytical expertise (★★) means that (if the relevant data are available), using the tool or framework requires only a familiarity with tables, graphs, and basic statistics, and the ability to facilitate a group discussion/brainstorming session. High need for analytical expertise (★★★★) means that significant econometric and statistical knowledge is required to execute a tool or framework. Intermediate need for analytical expertise (★★★) means that a basic understanding of statistics and the concepts and theories discussed in regional economics are required; more specialised and experienced facilitators may be needed as well.

**Degree of use in developing city strategies: high (★★★★★), medium (★★★★), low (★★★)**

Degree of use in city strategies refers to the extent to which the tool or framework is used in local economy assessments by the 15 reference cities discussed in this Resource Guide.
Questions
Addressed in
This Chapter
- What tools can cities use to analyse data on the local economy?
- What tools are appropriate for a particular city?

Once the relevant local economic data have been collected, it is time to interpret this information. A number of data analysis tools are available to help turn raw data and other information on the city into something meaningful. For example, data on the current sectoral structure of the economy are of little use unless there is a way to put this information into context (as measured against historical and/or national and regional trends).

This chapter presents a quick reference guide to data analysis tools that can be used for a city’s local economy assessment. Most are commonly used by cities around the world, so they have been tried and tested in real city development strategies. Table 4.1 describes these tools based on their resource intensity, their need for analytical expertise, and the extent to which they are used in city strategies.

What Tools Can Cities Use to Analyse Data on the Local Economy?
What Tools Are Right for a Particular City?

The data analysis tools discussed in this chapter are widely used by LED practitioners in a number of cities to analyse the data collected on their local economies. Some data analysis tools (growth indexes, benchmarking or GIS mapping, for example) generally help to organise and compare data. Other tools help cities to analyse different factors affecting their competitiveness (economic structure, local endowments, human capital, and institutions). For example, value-added analysis, shift share analysis, or cluster mapping assess different aspects of the city’s local economic structure (basic sectoral contributions, changes in contribution by sector, or linkages between sectors).
But not all of the tools described in this chapter are relevant or appropriate for all local economy assessments. As mentioned earlier, trade-offs often must be made in terms of the time, resources, and local capacity available for the assessment. Many cities that are new to the assessment process focus their resources and build capacity for the core data analyses, then gradually expand both the number of data analysis tools used and the sophistication of the analyses.

The tool descriptions presented in table 4.1 provide an overview of the relative ease with which these data collection tools can be used.

<table>
<thead>
<tr>
<th>Purpose of tools</th>
<th>Types of tools</th>
<th>Description of tools</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>To help organise and compare data</td>
<td>Time series analysis</td>
<td>Maps the development of socioeconomic indicators over a certain time period.</td>
<td>$</td>
<td>★</td>
<td>★★★</td>
</tr>
<tr>
<td>Growth indexes</td>
<td>Enables direct comparisons between two or more economies by converting absolute data for a socioeconomic indicator into a common value.</td>
<td>$</td>
<td>★</td>
<td>★</td>
<td></td>
</tr>
<tr>
<td>Composite indexes</td>
<td>Combines a set of indicators to construct a single measurement of a socioeconomic phenomenon.</td>
<td>$$</td>
<td>★</td>
<td>★</td>
<td></td>
</tr>
<tr>
<td>Benchmarking</td>
<td>Compares the local economy with other places, often to understand local competitiveness.</td>
<td>$$</td>
<td>★</td>
<td>★★</td>
<td></td>
</tr>
<tr>
<td>GIS mapping</td>
<td>Software tool that combines geographical and economic data to provide a spatial analysis and map of the local economy.</td>
<td>$$$</td>
<td>★</td>
<td>★★</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 4.1 Quick Reference Guide to Data Analysis Tools (continued)

<table>
<thead>
<tr>
<th>Purpose of tools</th>
<th>Types of tools</th>
<th>Description of tools</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>To help organise and compare data (continued)</td>
<td>PEST/Trends analysis</td>
<td>Assesses future trends and potential shocks of Political, Economic, Social, and Technological (PEST) events in the wider environment.</td>
<td>$</td>
<td>❖❖❖</td>
<td>❖❖❖</td>
</tr>
<tr>
<td>To assess basic sectoral contributions to economy</td>
<td>Sector share analysis</td>
<td>Identifies the city’s key industries in terms of contribution, including output and/or employment to the local economy.</td>
<td>$</td>
<td>❖❖❖</td>
<td>❖❖❖</td>
</tr>
<tr>
<td></td>
<td>Value-added analysis</td>
<td>Determines the value-added component within the local economy to provide a measure of overall economic performance, firm contribution to the local economy, and productivity.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖❖</td>
</tr>
<tr>
<td></td>
<td>Economic base analysis</td>
<td>Assesses the city’s broad economic structure and compares sectors that serve the local population with those that export outside the local economy.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖</td>
</tr>
<tr>
<td>To analyse changes in economic output or employment by sector</td>
<td>Shift share analysis</td>
<td>Assesses the performance, including employment growth, of sectors in the local economy relative to a larger reference economy, typically the national economy.</td>
<td>$</td>
<td>❖❖</td>
<td>❖❖</td>
</tr>
<tr>
<td>To assess economic or sectoral concentration and specialisation</td>
<td>Location quotient</td>
<td>Measures the degree of specialisation and industrial concentration of the local economy.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖❖</td>
</tr>
<tr>
<td></td>
<td>Specialisation index</td>
<td>Measures the degree of specialisation in the local economy. For example, the Herfindahl-Hirschman Index (HHI) measures market concentration.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖</td>
</tr>
<tr>
<td>To examine linkages between sectors</td>
<td>Input-output analysis</td>
<td>Constructs a model of the local economy to show linkage effects between sectors, including how spending in one sector ripples through the local economy.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Social accounting matrix</td>
<td>Constructs a model of the local economy to show how income is derived from production activities and distributed to various socioeconomic groups.</td>
<td>$$$</td>
<td>❖❖</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Cluster mappinga</td>
<td>Identifies clusters based on analysis of linkages and degree of geographical concentration.</td>
<td>$</td>
<td>❖❖</td>
<td>❖❖</td>
</tr>
<tr>
<td></td>
<td>Value chain analysisa</td>
<td>Examines relationships between firms in an industry value chain.</td>
<td>$</td>
<td>❖❖</td>
<td>❖</td>
</tr>
<tr>
<td>To examine local endowments</td>
<td>Asset mapping</td>
<td>Identifies and documents the key tangible and/or intangible assets available to a local economy.</td>
<td>$</td>
<td>❖</td>
<td>❖</td>
</tr>
<tr>
<td>Purpose of tools</td>
<td>Types of tools</td>
<td>Description of tools</td>
<td>Resource intensity</td>
<td>Analytical expertise</td>
<td>Degree of use</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>----------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>To assess human capital</td>
<td>Skills audit&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Assesses skills available in the local economy and maps them against needs, including market requirements and strategic vision of the city.</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>To analyse institutions</td>
<td>Shareholder analysis/Institutional mapping</td>
<td>Identifies key stakeholders and analyses the relationships between them and their strategic interests in local economic development.</td>
<td>$</td>
<td>$</td>
<td>+</td>
</tr>
</tbody>
</table>

Note: For an explanation of symbols in the table, see notes for table 3.1 on page 34.

<sup>a</sup> The resource intensity and analytical expertise needed for this tool depend upon whether quantitative or qualitative analysis is used. Quantitative analysis tends to be more resource-intensive and requires more analytical expertise. The rankings in table 4.1 assume that the minimum data requirements are described.
Assessing Competitiveness

Questions Addressed in This Chapter

- What frameworks can cities use to develop strategic recommendations?
- What frameworks are right for a particular city?

After the local economy data have been collected and insights have been drawn from its analysis, integrating this information in a clear assessment of the local economy to understand the implications this may have on the city’s strategy is critical. A number of strategic frameworks can help to pull together the data, information and perceptions on the local economy, and summarise it from the standpoint of what it means for a local economy’s overall competitiveness.

The strategic frameworks discussed in this chapter are the frameworks most commonly used by the 15 cities in our reference group, so these frameworks have been tried and tested in real city development strategies. The quick reference guide presented in table 5.1 reviews these frameworks in terms of their resource intensity, their need for analytical expertise, and the extent to which they have been used by cities around the world.

What Frameworks Can Cities Use to Develop Strategic Recommendations? What Frameworks Are Right for a Particular City?

Four strategic frameworks widely used by LED practitioners and the 15 cities discussed in this Resource Guide are:

- SWOT analysis
- Problem analysis
- Competitive advantage
- Scenario planning

These four strategic frameworks have quite different requirements in terms of data, capacity, and resources. SWOT analysis (strengths, weaknesses, opportunities, and threats) is generally considered
to be one of the most accessible frameworks, and most cities in the early stages of institutionalising the local economy assessment and building LED capacity focus on this approach.

Table 5.1 provides a quick overview of the relative ease of using these strategy analysis frameworks in terms of their resource intensity, the need for analytical expertise, and their degree of use in city strategies.

<table>
<thead>
<tr>
<th>Table 5.1 Quick Reference Guide to Strategic Frameworks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic framework</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>SWOT analysis</td>
</tr>
<tr>
<td>Problem analysis</td>
</tr>
<tr>
<td>Competitive advantage</td>
</tr>
<tr>
<td>Scenario planning /</td>
</tr>
<tr>
<td>regional futures</td>
</tr>
</tbody>
</table>

Note: For an explanation of symbols in the table, see notes for table 3.1 on page 34.

**Tips**

A number of frameworks can be used to assess the strategic implications of data collected as part of a local economy assessment. The key is to tailor the strategic frameworks to meet the available capacity and the needs of particular groups in the city. In fact, more than one strategic framework can be used to address specific audiences. For example, SWOT analysis can be a particularly effective framework for communicating with political audiences, whereas competitive advantage frameworks can be relevant for business audiences.

When using more complex strategic frameworks, such as scenario planning or regional futures, ensure that audiences understand the process and the implications of the outputs.
Yam sellers in Benin
Further Guidance for Practitioners

CHAPTER 6 Identifying data requirements
- Extensive list of economic indicators.
- Reference guide to economic indicators.

CHAPTER 7 Collecting data
- Guidance on data collection tools and information on further resources.

CHAPTER 8 Analysing data
- Guidance on commonly used data analysis tools and information on further resources.
- Introduction to less commonly used data analysis tools.

CHAPTER 9 Assessing competitiveness
- Guidance on widely used data analysis tools and information on further resources.
- Overview of less commonly used strategic analysis frameworks.
Identifying Data Requirements

Guide to LED Indicators

Many factors can affect the competitiveness of a city-region, and these factors can be taken into account in designing local economic development (LED) strategies. This chapter presents extensive lists of economic indicators that local policy makers and practitioners can use to measure and monitor the local economy assessment and strategic planning processes.

The LED indicators presented in this chapter (see tables 6.1–6.4) are adapted from the extensive work of the World Bank’s LED unit published in the Local Economic Development Primer (Swinburn et al. 2004) and are available online through the World Bank’s LED Web site (see www.worldbank.org/urban). The tables are also derived from work conducted on behalf of the Cities Alliance (“Urban Competitiveness Assessment in Developing Country Urban Regions: The Road Forward,” Webster and Muller 2000) with additional input from the project consulting team.

To simplify the process of selecting appropriate LED indicators, each indicator is validated according to the criteria detailed in the notes to table 3.1 (see page 34).

The rankings presented in tables 6.1–6.4 also assume that, at a minimum, data of reasonable quality on basic economic indicators, such as employment and number of formal businesses, exist at the regional level.

What Data Help Cities Understand Their Economic Structure?

A wide range of indicators can be used to assess the economic structure of a city. And these LED indicators typically are based on quantitative data that can be obtained from formal statistical sources, such as national or local statistics bureaus. Where data are not available at the required disaggregated level (city-level data, for example) or where data are not available at all through existing
statistical sources, cities may need to collect their own data. Industrial structure surveys often can be used for this purpose. In some cases, it may be possible to estimate or “model” the missing data (see Toronto Case Study).

The list of LED indicators in table 6.1 can help in understanding the economic structure of a city, though as mentioned earlier in chapter 2, selecting the LED indicators will involve some practical trade-offs. Each indicator is ranked based on resource intensity, the need for analytical expertise, and the extent to which the indicator is used in city strategies.

Understanding the Economic Structure of the Informal Economy

The informal economy is a major contributor to local economic activity in many cities. In fact, in many developing countries, the majority of employment opportunities are within the informal economy. However, in many cases, little is known about the size and performance of this important sector. In particular, the very nature of informal economy enterprises, which typically are mobile and transitory and tend to avoid detection by government authorities, presents challenges for data collection.

Some cities have developed innovative approaches to collect detailed structural data on the informal economy. The following examples show how the informal economy has been assessed to develop a holistic picture of the city’s economic structure in three African countries.

Karu (Nigeria). Given the small number of established, registered firms in Karu, collecting data on the informal sector was critical to understanding the local economy. Karu therefore assessed the economic structure of its informal sector in parallel to an assessment of formal sector activity. However, because Karu had no record of informal sector establishments or any other registers of the economically active population, data on informal sector firms had to be collected using an informal sector survey (see informal sector survey on page 64 for more information about this tool).

In considering the informal sector, Karu undertook a detailed study of the economic activities and characteristics of informal sector firms. The survey covered topics including enterprise size and sector, owner characteristics, source of seed capital, reasons for locating in Karu, and estimated daily revenue. The survey was presented to nearly 500 informal sector enterprises. With these data, Karu was able to determine that informal sector enterprises accounted for more than 90 percent of local employment. Based on this information, Karu decided that not only did the LED strategy need to address obstacles...
<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of economy</td>
<td>Regional or urban GDP (including GRDP, GGP, over time; overall and per capita)</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Total employment levels</td>
<td>$</td>
<td>↑</td>
<td>+++</td>
</tr>
<tr>
<td>Sectoral structure and specialisation</td>
<td>Share of GDP by sector (output and employment)</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>◆ Versus national structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>◆ Changes over time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage of employment from local firms versus FDI</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Percentage of employment from public versus private sector organisations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td>Percentage of firms exporting (overall, by sector, and by firm size)</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Percentage of output exported</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Main export destinations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interfirm linkages</td>
<td>Share of sales to domestic industry as intermediate goods/services/capital</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>Total use of intermediates as share of production value and proportion produced in the region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existence of industry clusters¹</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>▼</td>
</tr>
<tr>
<td>Firm structure</td>
<td>Total number of firms (by sector and over time)</td>
<td>$</td>
<td>↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Number of firms by firm size (by output and employment) and by sector</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Profiles of top companies in the area (by output and employment)</td>
<td>$</td>
<td>↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Based on sector, exports, and ties to other firms inside/outside region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productivity</td>
<td>Regional or urban economy productivity measures (overall and by sector)</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>◆ Total factor productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>◆ Labour productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>◆ Capital productivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td>Fixed capital formation levels (GFCF) overall and by sector</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>◆ Share from domestic sources versus FDI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total number and size (value, employment) of inward investment</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>◆ By firm size and sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>◆ Share from domestic sources versus FDI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diaspora investment</td>
<td>$$$$</td>
<td>↑ ↑</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>Qualitative information on inward investment and disinvestment</td>
<td>$</td>
<td>↑</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>◆ Public cost (including incentives)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)
facing informal sector entrepreneurs, but as an important group of stakeholders, they also had to be involved in the strategy formulation process.

For more information on the informal sector survey in the city of Karu, see: http://www.citiesalliance.org/cdsdb.nsf/47b563a0f7b269548525683b006ae379/f7e750a1ac51dba68256cec00787867f!OpenDocument.

Bobo-Dioulasso (Burkina Faso). Given the size of the informal economy in Bobo-Dioulasso, particular attention was paid to gathering data about the informal economy. Surveys were conducted using panel techniques, where a sample of informal enterprises and households were selected and monitored over time. Although this procedure had considerable advantages over one-time surveys and provided a dynamic

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment (continued)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nature of activity</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reason for investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Links to local economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research and development expenditure (overall and by sector)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per capita and as percent of GRDP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By source (public vs. private expenditure)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Share of firms with research and development activity in the region</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patent levels (overall and by sector)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of new business start-ups (by size, sector)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Net firm creation rates (new start-ups less closures)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal economy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Size of informal economy (overall and by main sector—primary, secondary, tertiary)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employment (overall and percent of nonagricultural employment)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Output (percent GRDP and percent nonagricultural GRDP)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total number of firms, by size (own account, fewer than or more than 10 employees)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to finance (percent of credit from formal vs. informal sources)</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Links to formal sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government laws, policy, and informal sector initiatives</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Backward and forward linkages with formal sector firms</td>
<td>$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: FDI, foreign direct investment; GDP, gross domestic product; GFCF, gross fixed capital formation; GDP, gross geographic product; GRDP, gross regional domestic product. For an explanation of symbols in the table, see notes for table 3.1 on page 34. Also refer to the two LED indicator menus in chapter 2. The menus in tables 2.1 and 2.2 provide guidance on LED indicators in cities with limited resource availability and cities with good resource availability.

a. GDP rates are typically available at the regional level but less so at the city level. Therefore, the use of GDP in local economy assessments depends on the discrepancy in size and structure of the regional versus the city economy. Collecting data for the calculation of GDP is somewhat resource-intensive if the data do not already exist.

b. The resource intensity and degree of specialised support needed for this indicator largely depends on how the existing clusters are measured. This can be done to differing degrees of complexity and with data that may (or may not) be available from a national or regional statistics bureau. For more information on cluster mapping, see chapter 8 of this Resource Guide.
picture of the formal economy, there were problems related to the demise of some of the firms surveyed in the initial stages of the process, the difficulty of incorporating new start-ups, and respondent fatigue. The information derived from the surveys of the informal economy was then contrasted with that from stakeholder participation and interviews.

**Durban (South Africa).** Durban focused on the informal economy as a possible facilitator of competitiveness in the city in certain sectors. In order to identify ways to productively develop the informal economy, Durban undertook a range of surveys to identify the economic structure, trends, and development needs of the informal economy. The informal sector surveys have provided critical information to support the development of an informal economic policy in the city and have facilitated the improved provision of infrastructure and services to support the competitiveness of the sector.

For a 2006 assessment of the informal sector in Durban, see: http://sds.ukzn.ac.za/default.php?7,6,154,4,0.

---

**TABLE 6.2 Quick Reference Guide to LED Indicators on Local Endowments**

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural resources</td>
<td>Primary sector output, employment, and export levels (per capita and as percent of GRDP)</td>
<td>$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Employment, output, and export levels for key natural resources-intensive industries</td>
<td>$$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Stocks/capacities of key natural resources (current and change over time)</td>
<td>$$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Location and market access</td>
<td>Total scale and scope of local market and accessible catchment area (defined as within x km of local area)</td>
<td>$$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Population density</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average income levels (overall, disposable) and income distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure—transport</td>
<td>Distance and travel time to key urban regions, markets in the country, and key export markets</td>
<td>$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Scale and scope of transport infrastructure (current and change over time)</td>
<td>$$</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Road: total km of road network, km of motorways, number of passengers/journeys made, average travel times between key locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rail: total km of rail network, km of main line track, number of passengers/journeys made; average travel times between key locations; size and average age of rolling stock, on-time arrival percentages</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**What Data Help Cities Understand Local Endowments?**

Much of the effort in pulling together the required data for a city’s assessment of these LED indicators will likely rely on secondary research and the analysis of qualitative statistical data. There is a diverse range of data sources—including government statistics, reports from local and national transport and utility providers and regulators, and local and national media. Typically these data are readily available. If not, cities might initiate a participatory process that brings informed local stakeholders together to brainstorm on the topic of local endowments.

Table 6.2 suggests a range of LED indicators that can be helpful in understanding the local endowments of a city, and offers some practical guidance on their resource intensity, the need for analytical expertise, and their use in city strategies.
**TABLE 6.2 Quick Reference Guide to LED Indicators on Local Endowments (continued)**

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure—transport</td>
<td>Port: Number of berths, capacity, number of arrivals/departures, average</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td>(continued)</td>
<td>clearance time, connections and travel times to key locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Airport: number of slots, flight capacity, arrivals/departures, connections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to key locations, number of passengers carried, and amount of cargo carried</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure—property</td>
<td>Inventory and profile of key transport infrastructure</td>
<td>$$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Quality of transport infrastructure: overall and by mode</td>
<td>$$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Average commuting time for workers</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Availability and quality of land and premises (by type, including industrial,</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>commercial, retail, R&amp;D, and size)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Existence of business parks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capacity and vacancy levels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average age of property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average quality level (Grade A+, A, and so forth)</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td>Infrastructure—utilities</td>
<td>Cost of land and premises (current and change over time)</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Rental or purchase prices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality and cost of housing stock</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Distribution of housing stock by value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average prices and affordability (change over time)</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Cost of services to businesses: electricity, water, and solid waste and</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>wastewater disposal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Connection cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average usage rates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality of services to business: electricity, water, wastewater, and solid</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>waste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability of connections (share of firms served)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average waiting time for connection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reliability of service (average number and duration of outages/downtime)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost of services available to business: telecommunications</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Fixed line: connection cost, peak calling time cost for 10-minute local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>call and for 10-minute international call</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobile/cellular: connection cost, peak calling time cost for 10-minute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Broadband: connection cost, average monthly cost for high volume capacity</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>(512 Mbps)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Infrastructure—utilities (continued)
- Quality of services available to business: telecommunications
  - Fixed line: percentage of firms with connection, average wait time for connection, average downtime (or percent of dropped calls)
  - Mobile/cellular: percentage of firms with access, coverage in area, average downtime (or percent of dropped calls)
  - Broadband: percentage of firms with access, coverage in area, average wait time for connection, average downtime of service (including hours per month)

- Cost and quality of services available to the local population: electricity, solid waste disposal, telecommunications, and water
  - Share of households connected
  - Average monthly cost (as share of income)

### Infrastructure—financial
- Availability of local finance to businesses
  - Number of bank branches per capita
  - Share of credit from formal/informal sources
  - Availability of venture capital (number of funds operating in region and value of funds)
  - Availability of microfinance (number of schemes operating in region and value of loan funding)

### Infrastructure—educational
- Primary and secondary education infrastructure
  - Number of schools
  - Per capita or per pupil government expenditure
  - Average class sizes

- Higher education infrastructure
  - Higher and further education establishments and research centres, by type

### Cultural infrastructure, amenities, and quality of life
- Cultural amenities (including movie theatres, theatres, music halls, sports facilities, and libraries)
  - Inventory of assets
  - Levels per capita
  - Participation/usage levels by local population

- Security, health, and well-being (see table 6.3)

### Local cost structure
- Affordability of housing
- Cost of living
- Taxes (including corporate, personal, and property)

### City image
- Perceptions of city in media and among potential investors and workers

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**TABLE 6.2 Quick Reference Guide to LED Indicators on Local Endowments (continued)**

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure—utilities</td>
<td>Quality of services available to business: telecommunications</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td>Fixed line: percentage of firms with connection, average wait time for</td>
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<td></td>
<td>connection, average downtime (or percent of dropped calls)</td>
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<td>Mobile/cellular: percentage of firms with access, coverage in area,</td>
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<td></td>
<td>average downtime (or percent of dropped calls)</td>
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<td>Broadband: percentage of firms with access, coverage in area, average</td>
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<td>wait time for connection, average downtime of service (including hours</td>
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<td>per month)</td>
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<td>Cost and quality of services available to the local population: electricity,</td>
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<td></td>
<td>solid waste disposal, telecommunications, and water</td>
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<td></td>
<td>Share of households connected</td>
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<td></td>
<td>Average monthly cost (as share of income)</td>
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<td>Infrastructure—financial</td>
<td>Availability of local finance to businesses</td>
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<td></td>
<td>Number of bank branches per capita</td>
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<td></td>
<td>Share of credit from formal/informal sources</td>
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<td></td>
<td>Availability of venture capital (number of funds operating in region and</td>
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<td>value of funds)</td>
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<td>Availability of microfinance (number of schemes operating in region and</td>
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<td></td>
<td>value of loan funding)</td>
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<td>Infrastructure—educational</td>
<td>Primary and secondary education infrastructure</td>
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<td></td>
<td>Number of schools</td>
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<td>Per capita or per pupil government expenditure</td>
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<td>Average class sizes</td>
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<td></td>
<td>Higher education infrastructure</td>
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<td></td>
<td>Higher and further education establishments and research centres, by type</td>
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<tr>
<td>Cultural infrastructure,</td>
<td>Cultural amenities (including movie theatres, theatres, music halls,</td>
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<tr>
<td>amenities, and quality of</td>
<td>sports facilities, and libraries)</td>
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<tr>
<td>life</td>
<td>Inventory of assets</td>
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<td>Levels per capita</td>
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<td></td>
<td>Participation/usage levels by local population</td>
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<td>Security, health, and</td>
<td>Security, health, and well-being (see table 6.3)</td>
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<td>well-being</td>
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<tr>
<td>Local cost structure</td>
<td>Local cost structure</td>
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<td>Affordability of housing</td>
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<td>Cost of living</td>
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<td></td>
<td>Taxes (including corporate, personal, and property)</td>
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<tr>
<td>Perceptions of quality of</td>
<td>Perceptions of quality of life</td>
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<td>life</td>
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<tr>
<td>City image</td>
<td>Perceptions of city in media and among potential investors and workers</td>
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</tbody>
</table>

(continued)
Notes: GRDP, gross real domestic product; Mbps, megabytes per second; R&D, research and development. For an explanation of symbols in the table, see notes for table 3.1 on page 34. For more information on LED indicators, refer to the LED indicator menus in chapter 2. The menus in tables 2.1 and 2.2 provide guidance on LED indicators in cities with restricted resource availability and cities with good resource availability.

a. This indicator and the others under “natural resources” are important to track only when a particular natural resource is a key driver of the local economy (oil, minerals, a specific agricultural crop, fisheries, timber, and so forth).

CASE STUDY

**Local Endowment Indicators: Quality of Life Assessment—POZNAŃ (Poland)**

Poznań’s city government initiated its Quality of Life Indicators Programme as one component of a broader plan to expand contacts and create an effective system of communication between the local government and city residents and to better understand local living conditions. The programme encourages greater participation because it enables residents to express opinions and evaluate important aspects of life in the city, including the functioning of city authorities; it also provides a vehicle for the local community to influence some public matters, especially those related to living conditions and everyday life.

The Quality of Life survey in Poznań is based on two separate analyses. One analysis aims to gain a good understanding of living conditions based on objective indicators that describe the actual state of the city (the number of thefts, burglaries, and arrested criminals, for example). The other analysis collates subjective indicators based on the attitudes and opinions expressed by local residents (the feeling of personal safety on the streets). During each annual assessment, statistical data are collected on objective indicators, whereas data on subjective indicators are collected via questionnaire research.

Crucial decision-making information is thus available on Poznań, in the form of a small number of synthesised, standardised, and clear indicators. The programme also stimulates communication with residents and helps to construct programmes that connect objective indicators with the city’s public relations activities, which in turn are often picked up by local media.

The survey measures a number of city life domains that were selected based on extensive desk research, consultation with experts, qualitative research (based on feedback from focus groups), and quantitative research (questionnaire-based interviews) with city residents. These domains include:

- Public life (including an assessment of key civil society organisations and their membership levels)
- Social security and poverty areas
- Well-being
- Criminal activity and feeling of personal safety
- Housing conditions, neighbourhood
- Leisure time
- City, space, and infrastructure
- Environment
- Civic involvement and awareness
- Work and income
- Health and health institutions
- Education
- Population
- City, space, and infrastructure

The research is conducted by the Quality of Life Centre at the Institute of Sociology at Adam Mickiewicz University in Poznań. This research unit was established in collaboration with Poznań’s city hall.

What Data Help Cities Understand Human Capital?

A diverse set of LED indicators can be used to assess the human capital available in a city. Many of these indicators will draw on quantitative data obtainable from formal statistical sources (such as local or national statistics bureaus).

Table 6.3 presents a list of LED indicators that can help in understanding the human capital of a city, and offers some practical guidance on their resource intensity, the need for analytical expertise, and use in city strategies.

**Tips**

Many city administrators view human capital as crucial to their local competitiveness. In order to assess how well their city is doing relative to other cities within their own country (or abroad), some cities have begun to benchmark various aspects of their human capital, including unemployment levels, earnings, skills, or educational levels. However, definitions of these human capital indicators can vary substantially across national contexts, so it is always important to make “like for like” comparisons.

---

**TABLE 6.3 Quick Reference Guide to LED Indicators on Human Capital**

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
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<td></td>
<td>Population levels and distribution (current and change over time) by:</td>
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<td>- Age</td>
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<td>- Gender</td>
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<td>- Spatial (subregional density levels, especially urban, peri-urban, rural)</td>
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<td>- Race/ethnicity (if relevant)</td>
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<td>Number and distribution of households</td>
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<td>Immigration and emigration levels (current and change over time), by:</td>
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<td>- Age</td>
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<td>- Spatial (subregional density levels especially urban, peri-urban, rural)</td>
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<td>- Race/ethnicity (if relevant)</td>
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<td>- Educational attainment</td>
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<td>Personal and social well-being (current and change over time)*:</td>
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<td>- Life expectancy at birth</td>
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<td>- Death rates</td>
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<td>- Marriage and divorce rates</td>
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<td>- Crime rates (crime levels per 1,000 population)</td>
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<td>- Rates of key illnesses/diseases</td>
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<tr>
<td>Employment and income</td>
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<td></td>
<td>Employment levels (current and change over) by sector and/or type of occupation (professional, technical, semi-skilled, and so forth)</td>
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<td></td>
<td>- Total levels</td>
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<td>- Share of total employment</td>
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<td></td>
<td>Labour force participation, percentage of employment and unemployment (current and change over time), by:</td>
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<td>- Age</td>
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<td>- Gender</td>
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</tbody>
</table>
### TABLE 6.3 Quick Reference Guide to LED Indicators on Human Capital (continued)

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and Income</td>
<td>Race/ethnicity</td>
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<td></td>
<td>Sector and/or type of occupation</td>
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<td></td>
<td>Spatial</td>
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<tr>
<td>(continued)</td>
<td>Nature/structure of employment (current and change over time) by age, gender,</td>
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<td></td>
<td>and so forth; as in the cell above</td>
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<td></td>
<td>Percentage in salaried vs. self-employed (home worker, subsistence farmer,</td>
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<td></td>
<td>for example)</td>
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<td></td>
<td>Percentage full-time / part-time / seasonal</td>
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<td></td>
<td>Spatial structure</td>
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<td></td>
<td>Nature/structure of unemployment (current and change over time) by age, gender,</td>
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<td></td>
<td>and so forth; as in the cells above</td>
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<td></td>
<td>Average duration</td>
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<td>Percentage long term</td>
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<td>Percentage no longer seeking employment</td>
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<td></td>
<td>Spatial structure</td>
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<td></td>
<td>Earnings levels (current and change over time)</td>
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<tr>
<td></td>
<td>Average weekly or monthly earnings by age, race/ethnicity, educational/skills</td>
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<td></td>
<td>(by sector)</td>
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<td></td>
<td>Average earnings in formal vs. informal economy</td>
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<tr>
<td>Education and skills</td>
<td>Attainment levels (current and change over time)</td>
<td>$$$</td>
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<tr>
<td></td>
<td>Attainment level—number and percent of current workforce and population</td>
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<td>(primary, secondary, matriculation, technical diploma, university)</td>
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<td>University graduates by specialisation (technical/engineering vs. business,</td>
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<td>liberal arts, other)</td>
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<td></td>
<td>Current enrolment levels</td>
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<td></td>
<td>On-the-job training schemes and apprenticeships</td>
<td>$$$</td>
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<td></td>
<td>Percentage of firms offering</td>
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<td></td>
<td>Percentage of workforce participating in these schemes</td>
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</tbody>
</table>

Notes: For an explanation of symbols in the table, see notes for table 3.1 on page 34. For more information on LED indicators, refer to the LED indicator menus in chapter 2. The menus in tables 2.1 and 2.2 provide guidance on LED indicators in cities with restricted resource availability and cities with good resource availability.

a. Although these issues may not be directly relevant to the local economy, they have a significant impact on labour productivity and quality of life.
What Data Help Cities Understand Local Institutions?

The data needed to assess the strength of local institutions are not typically available through published statistics. This group of LED indicators is based on qualitative data that the city will need to collect through primary research (table 6.4). Many cities use investment climate surveys (ICSs) of their local businesses and potential foreign investors to collect these data.

CASE STUDY

Human Capital Indicators: Meeting the Skill Requirements of the Knowledge Industry—COPENHAGEN (Denmark)

A key strategic aim of Copenhagen is to become a leading international host for knowledge and research-intensive industries. Therefore, access to highly skilled workers is key to the performance of this sector. To measure the extent to which the city’s labour pool offered sufficient numbers of workers with the appropriate skills, Copenhagen planners focused on three indicators:

- **Labour demand by skill area.** To measure the demand for labour by skill areas, they measured the growth in percent of the number of workers living in the city-region between 1993 and 2001, by skill level (no education, technical schooling, high school, bachelor’s degree, or master’s/doctorate).

- **Areas of current skill shortage.** They also examined bottleneck areas (defined as nontemporary labour demand when jobs requiring specific skills cannot be satisfied with the existing available labour force). These bottleneck lists are published quarterly by local employment offices.

- **Future labour shortages.** To measure possible future labour shortages, they examined growth in the percent of workers living in the city-region between 1993 and 2001 (by age composition and by the age composition of highly skilled workers, by industrial sector).

By examining these three measures, Copenhagen’s city planners discovered that the demand for highly educated workers was increasing rapidly—in some cases by more than the labour supply—and that in the medium and long term, the increasing proportion of young people going into higher education seemed unlikely to compensate for the loss of highly skilled labour due to an ageing population.
**Tips**

The data for indicators on local institutions are often difficult to obtain and to use, so it makes sense to be selective in deciding which data to collect. The time and resources needed to collect data in surveys of local institutions can only be justified if the quality of the institutions is a critical driver of a city's competitiveness. To determine this, examine national performance by reviewing an investment climate report or transparency index. If these assessments indicate that either a lack of transparent governance or difficulties in the business-enabling environment are barriers to investment and growth at the national level, similar problems may exist in local governments. In cases like this, a first-hand assessment of local institutions may be particularly useful.

The following sources provide information on some widely used investment climate surveys:

- The Business Environment Survey has been conducted in 30 Commonwealth countries by the Commonwealth Business Council since 1999; for more information, see: http://www.cbcglobelink.org/.
- The World Bank Productivity and Investment Climate Survey has been conducted in more than 30 developing and transition countries since 2002; for more information, see: http://www.enterprisesurveys.org/.

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**Table 6.4 Quick Reference Guide to LED Indicators on Local Institutions**

<table>
<thead>
<tr>
<th>Key categories to monitor</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance—rule of law</td>
<td>Perception of confidence in legal system</td>
<td>$$</td>
<td>↑ ↑</td>
<td>❖</td>
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<tr>
<td></td>
<td>Crime theft and disorder rates (crime levels per 1,000 population, incidences of major social unrest)</td>
<td>$</td>
<td>↑</td>
<td>❖</td>
</tr>
<tr>
<td></td>
<td>Security and protection costs (expenditure on public safety, expenditure on security industry)</td>
<td>$$</td>
<td>↑ ↑</td>
<td>❖</td>
</tr>
</tbody>
</table>
| Governance—transparency and accountability | Stakeholder perceptions of  
- Consistency of officials’ interpretation of regulations  
- Economic and regulatory policy uncertainty | $$                 | ↑ ↑                  | ❖             |
|                           | Perception of corruption levels in government and business                 | $$                 | ↑ ↑                  | ❖             |
|                           | Perception of existence of anticompetitive behaviour                       | $$                 | ↑ ↑                  | ❖             |
|                           | Degree of public access to information on government  
- Policy  
- Budgets | $                  | ↑                   | ❖             |
| Local business-enabling environment | Existence of key local economic development institutions:  
- Economic development department/authority  
- Investment promotion/industrial development agency  
- Other | $                  | ↑                   | ❖             |
### Key categories to monitor

<table>
<thead>
<tr>
<th>Local business-enabling environment (continued)</th>
<th>Indicators</th>
<th>Resource intensity</th>
<th>Analytical expertise</th>
<th>Degree of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Time (days) and resources (percent average annual wages) spent on:</td>
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<td>Existence of one-stop-shop for investors</td>
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<td>Chambers of commerce and other general business organisations</td>
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<td>Representative organisations for participants in informal economy</td>
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<td>Other key civil society organisations</td>
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<td>Trust, cooperation, and confidence</td>
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<td>Perception of confidence in key institutions such as government, police, and the courts</td>
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<td>Perception of the extent of interfirm cooperation</td>
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<td>Distributional arrangements</td>
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<td>Income distribution levels by race/ethnicity</td>
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<td>Percentage of public spending on social transfers</td>
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<td>In-built problem-solving capacity</td>
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<td>Incidences of strikes and lock-outs (number of days work lost)</td>
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**Notes:** For an explanation of symbols in the table, see notes for table 3.1 on page 34. For more information on LED indicators, refer to the LED indicator menus in chapter 2. The menus in tables 2.1 and 2.2 provide guidance on LED indicators in cities with restricted resource availability and cities with good resource availability.
CASE STUDY

Anti-corruption Study—MEDELLÍN (Colombia)

The analysis of institutional indicators is a key part of the local economy assessment in Medellín. City administrators in Medellín believe that the low degree of transparency and effectiveness in local government institutions has seriously undermined the legitimacy of local government and the desirability of the city’s investment climate.

The data for this analysis are from a survey conducted every two years (since 2000) by the Colombian Confederation of Chambers of Commerce in numerous Colombian cities. Approximately 100 firms from Medellin participate in each survey, and firms are asked to rate: 1) the degree of transparency, corruption, and anti-competitive behaviour in the public procurement processes; 2) the effectiveness of current anti-corruption measures; and 3) the efficiency and trustworthiness of public agencies.

The data collected using these surveys are seen as a useful resource; comparisons can be made with other cities, trends can be tracked over time, and indicators can be analysed to better target anti-corruption measures.

For more information on Medellin’s corruption study, see: http://www.probidad.org.co/ (documents in Spanish).
Inviting people from throughout the city to participate in collecting data on the local economy can be an effective way to involve stakeholders in the local economy assessment. This approach has the added benefit of helping the surveyors to understand the local community’s perceptions of critical issues that affect the city’s development.

Household Surveys

The household survey is a tool that can be used to collect a wide range of data on the households in a city (including who lives there, where they live, and how they live). This type of survey has become a routine data collection tool in many cities, in part, because of its flexibility. The type and range of topics that can be covered are broad, so the focus of household surveys depends on both data availability and the research aims. If existing data are limited (on topics such as basic demographics and employment), it may be best to use a household survey that covers a large range of socioeconomic topics (a so-called “integrated survey”). However, if basic demographic data are already available, it may be best to consider a specialised household survey if there are specific topics to be addressed in greater detail (such as access to local services and health care).

Typically, the household survey questionnaire collects data on basic household composition (including number of household members and their age), housing tenure, and socioeconomic data (including education and occupation), followed by a more specific component that typically focuses on income and expenditure. In addition, many cities include measures of poverty, health, welfare, and/or level and nature of economic activity (such as business sector, engagement in economic activities, type of business activities). For examples, see the further information box on page 61.
Census data can be used to compile the sample of households to be surveyed. If such data are not available, incomplete, or of poor quality, a stratified, multistage sampling technique can be used. This technique first administers a screening questionnaire to all (or a large part) of the city’s households to identify the basic overall household composition (based on size or income), and later administers the full questionnaire to a random (or stratified) sample. For more information on this technique see the further information box on page 61.

When conducted as a one-time data collection exercise, the household survey data can provide a useful one-time snapshot of the city’s socioeconomic makeup. However, repeating the survey on a regular basis will enable the city to build a stronger base of data and perform the time series analysis that will help explain patterns and drivers of change over time.

How Are Household Surveys Used?

The following questions can be answered by using household surveys:

- What is the composition of the local population in terms of number of households and inhabitants, and basic demographics (including age, gender, occupation, and educational attainment)?
- What are the income and consumption patterns of the local population? How does this vary across different demographic groups?
- What are the levels of health and welfare in the local population?
- What proportion of the population participates in the economy through formal and informal employment, and through ownership of formal and informal firms (by sector)?

What Key Inputs Are Required for Household Surveys?

To conduct a household survey, the following are needed:

- Familiarity with both the basic principles and methods of statistical analysis and the topic in question.
COLLECTING THE DATA

CASE STUDY

Household Surveys—KARU (Nigeria)

The near absence of formal statistics on the economy of Karu made the collecting of household data one of the main tasks in the local economy assessment. The goal of the household survey process was to estimate the total population, gain an understanding of the basic socioeconomic characteristics of the population (including educational levels, basic demographics, and employment status), and to identify the migratory and commuting patterns of households.

An official record of the population was not available, so the sample for the household survey was chosen based on a multistage cluster sampling technique. In this approach, the relevant population is divided into clusters (or groups), and a random sampling procedure is then applied to select clusters. In Karu, the clusters were residential areas identified by the survey consultants based on observation walks through the urban area. A total of 416 households were surveyed.

The survey results revealed that the town had experienced a fivefold increase in population during the past 10 years and that nearly 100 percent of households worked in the informal sector (as either owners or employees). So the household survey provided an important input for a subsequent informal sector survey, because the first survey was used to identify informal business owners later included in the informal sector analysis.

Tips

- Use local resources. In conducting surveys, local students and graduates can be a useful resource (especially when used as interviewers and enumerators). Students and graduates are not only familiar with the survey area but may also (if recruited by area of study) have a basic understanding of the survey topic.
- Build on existing survey instruments. Standard household survey instruments are available from national statistics offices in most countries. These survey instruments can be used as a base and customised for the specific survey needs of the city.
- Always pilot the survey. It is important to test the questionnaire and survey method ahead of time, to ensure that all of the components are working well. It is especially critical to test the survey questions in advance (particularly when the survey instrument is new) in order to clarify the questions (or limit ambiguities and possible biases in response). Several small-scale pilot exercises should be executed before the actual survey is launched.

Further Information

First time surveyors may want to review the general information on surveys posted at: http://www.sysurvey.com/tips/whitepapers.asp or http://www.whatisasurvey.info/.


For extensive coverage of surveys (including data analysis), see the United Nations Statistics Division’s “Household Sample Surveys in Developing and Transition Countries” at: http://unstats.un.org/unsd/HHsurveys/pdf/Household_surveys.pdf.

A range of household surveys and other resources compiled by the International Household Survey Network (IHSN) for use in developing countries are posted at: http://www.internationalsurveynetwork.org/surveys/.


- An idea of the composition of the population to be surveyed (in this case, the population of households) in order to collect a representative sample. In most cases, this information is available through national or regional bureaus of statistics.
- A carefully designed and piloted survey instrument (a multiple-choice questionnaire, for example).
Trained interviewers to conduct the interviews and enter the data into a database.

A computer and software to analyse the data (Microsoft Excel or other spreadsheets, and SPSS, STATA, or an equivalent statistical programme).

**Industrial Structure Surveys**

The industrial structure survey is a firm-level survey targeting large firms and small and medium-size enterprises (SMEs) in the formal economy. It is used to collect detailed structural data on local firms, including business sector, number of employees, and revenue. Although industrial structure data are often routinely collected through registers of regional and national bureaus of statistics, these data are sometimes incomplete and/or inaccurate. Also, these data may not exist at a disaggregated level of detail (for subsector data or data for emergent sectors) and may not be available at city or regional levels. Industrial structure surveys are also often used to study specific topics in greater detail (research and development activities and capabilities in the local economy, for example). The number and type of firms included in the sample depends on the purpose of the survey. Industrial structure surveys work well for registered businesses (both large enterprises and SMEs). However, the sample frame often fails to include self-employed and informal enterprises, which are often more effectively captured through informal sector or household survey methods.

Ideally, the sample for an industrial structure survey should be compiled from a list or registry of all businesses in the city. But when registers or lists of this type do not exist or are of poor quality, a multistage sampling process can be administered through a screening questionnaire forwarded to all (or most) of the city’s business establishments, followed by distributing the full questionnaire to a random (or stratified) sample.

When conducted as a one-off data collection exercise, the data collected from an industrial structure survey can provide a useful one-time snapshot of the city’s economic structure. However, repeating the survey on a regular basis will enable the city to build a stronger base of data and perform time series analysis that will help explain patterns and drivers of change over time.

**CASE STUDY**

**Industrial Structure Surveys—RAFAELA (Argentina)**

The municipality of Rafaela considers industrial structure surveys to be an important tool in monitoring the local economy. The goal is to conduct these surveys every five to six years. But the city has also timed the survey to assess the impact of specific economic events. For example, the last census was conducted, in part, to determine the medium-term effects of the 2001–02 economic crises in Argentina on local businesses.

The city attempts to include all companies officially registered in the city in the survey (approximately 400 firms). Ensuring that the local-level data collected can be tracked and measured against national and regional data is a main emphasis of the questionnaire. By comparing the local results with national and regional data, Rafaela can get a relative measure of how well its firms are performing.

The industrial structure survey is conducted in two stages. First, the managers of firms are interviewed by university graduates with knowledge of business administration and economic development. The topics covered during these face-to-face interviews focus mainly on how (and the extent to which) firms work to enhance their sales performance and innovation (through inter-firm cooperation, use of management tools, and participation in trade fairs). Second, the firm managers then provide more detailed data (on revenue, sales, employment, and sector) in a written questionnaire. The data collection is conducted in this way because, for some of the more detailed enterprise data, firms need to consult their registers, and the questionnaires can be completed by staff other than managers. Rafaela has used the output of these industrial surveys to develop an extensive and accurate database that covers historical and current data (on basic firm characteristics, human resources, market, and production and innovation).
How Are Industrial Structure Surveys Used?

The following questions can be answered by using industrial structure surveys:

- What is the composition of the formal economy in the city in terms of size of establishment and sector of economic activity?
- How important is the formal economy in the local economy? What is its contribution to total employment, value added, GDP, exports, or capital formation in the local economy?
- To what extent do firms have access to financial and public infrastructure?
- How competitive is the formal economy relative to the formal economy in other locations (in terms of productivity, export performance, and degree of innovation)?

What Key Inputs Are Required for Industrial Structure Surveys?

To conduct an industrial structure survey, the following are needed:

- Familiarity with both the basic principles and methods of statistical analysis and the topic in question.
- An idea of the composition of the population to be surveyed (in this case, the population of firms) in order to

Tips

**Target key decision makers.** Because the industrial structure survey collects critical business data, it is important to reach the key managers in firms who have access to these data. Therefore, the target managers to be interviewed are typically the business owner, managing director, or some other senior financial decision maker.

**Use local business networks.** Local business groups, including chambers of commerce, can provide valuable assistance in compiling the survey sample. They can share business registers to identify the total sample population and the decision makers to be contacted. The support of business groups can help to ensure high survey response rates, which is important because, unlike national government surveys, participation in local-level industrial structure surveys is typically voluntary.

**Check for alignment with regional/national surveys.** Industrial structure surveys are often routinely carried out at regional and national levels. To facilitate comparative analysis, it may be useful to align the city-level survey instrument with surveys used at regional or national levels.

**Ensure confidentiality.** Firms may be apprehensive about sharing sensitive commercial information, especially information related to revenues, production volumes, and the number of employees in various functions. To ensure confidentiality, the names of the firms surveyed should not be coded into the survey database or mentioned in the final report.

Further Information

First-time surveyors may want to refer to the general information on surveys posted at: http://www.sysurvey.com/tips/whitepapers.asp or http://www.whatisasurvey.info/.

For a thorough discussion of firm-level questionnaire design, see: http://wbln0018.worldbank.org/Research/workpapers.nsf/0/61ac3b87d78d0aecc852568aa006bb9d97/OpensDocument.

For an example of an industrial structure survey, see part one of the survey conducted by the department of economics at Addis Ababa University and the Centre for Study of African Economies, University of Oxford in Addis Ababa, Ethiopia, at: http://www.csae.ox.ac.uk/datasets/Ethiopia-AAIS/questionnaires.html.

For the interpretation of results of an industrial survey of manufacturing firms in Durban, South Africa, see: http://sds.ukzn.ac.za/default.php?6,151.4.0.
draw a representative sample. In most cases, a registry of formal firms that can be used as a sample frame is available from local tax offices and other local agencies. Information about the sectorial composition of firms may be available from national statistical bureaus and other surveys.

- A carefully designed and piloted survey instrument (a multiple-choice questionnaire, for example).
- Trained interviewers to conduct the interviews and enter the data into a database.
- A computer and software to analyse the data (Microsoft Excel or other spreadsheets; and SPSS, STATA, or an equivalent statistical programme).

**Informal Sector Surveys**

The informal sector survey is used to collect data on enterprises and individuals operating in the informal economy. Firms in the informal sector are defined as economic units involved in the production and sale of legal goods and services, but which are not registered as legal entities separate from their owners (and thus operate outside the reach of business tax and regulatory regimes). In cities, informal firms are typically small-scale enterprises and market and street traders (or vendors). Although informal enterprises often account for as much as half of total employment in many developing countries, the size and performance of this sector is rarely recorded by official statistics.

An informal sector survey can collect relatively detailed structural data on the sector through questionnaires completed by small-scale enterprises that typically make up the informal sector. Information on the number and character-

**CASE STUDY**

**Informal Economy Surveys—DURBAN (South Africa)**

The city of Durban has developed a detailed understanding of its informal economy, through a series of surveys conducted over the past decade (since the 1990s). These surveys have supplemented basic data collected in national statistics through household surveys and provide a broad perspective of the informal economy in the city. The aims of the informal economy surveys in Durban have been to better understand the nature of the informal economy by looking for the answers to questions, including: Which sectors are present? How do the formal and informal sectors interact? What issues do informal sector firms face as businesses?

One of the most important surveys, conducted in 2002, collected data on more than 500 informal enterprises in an effort to understand constraints to growth in the sector. The survey was conducted by researchers at the University of KwaZulu-Natal, Durban, as part of a World Bank/United States Agency for International Development funded programme. A sampling frame was not available, so the surveyors first identified enterprises by selecting sectors where the informal economy was known to be important, and then collecting sample sizes in each sector (to allow for cross-sector comparisons). All of the surveys were conducted through face-to-face interviews. Other types of surveys that have enhanced the city’s understanding of the informal economy include sector-specific surveys (of the traditional medicine sector, for example), surveys of formal and informal sector linkages (between the fruit and vegetable and clothing sectors), surveys of foreign street traders, and surveys of home-based enterprises. The informal sector surveys have provided critical information to support the development of an informal sector policy in Durban and have facilitated improvements in the delivery of infrastructure and services needed to support the competitiveness of the economy.
istics of informal enterprises can also be collected through household surveys or mixed household and enterprise surveys. These can either be conducted as independent surveys or as modules attached to an existing base survey (a labour force survey, for example). The decision to conduct a separate informal sector survey is not only a question of cost, but is (more importantly) related to the aim of the survey. Integrating informal sector activities into an existing survey format may represent a cost-effective way to measure the size and basic characteristics of the informal sector. However, for a more in-depth analysis of the informal sector, it may be best to consider a stand-alone informal sector survey.

Compiling a representative sample is especially challenging in informal sector surveys. Because of the short life span of informal sector firms, and because they often are mobile or operate from home without distinguishable business premises, reliable and up-to-date lists of informal sector firms seldom exist. There are typically two ways to approach this challenge. One is to administer a door-to-door screening survey to all (or a large part) of the city’s visible business establishment, and to later administer the full questionnaire to a randomly selected (or stratified) sample of the informal sector establishments. This technique ignores mobile firms or firms that operate from home, so the mixed survey approach often is used. In these cases, a household survey is first used (to identify the broad composition of the informal sector), and a representative sample is later stratified based on the household survey results.

Because many informal businesses do not have Internet access or land-line telephones, data tend to be collected through face-to-face interviews.

Note: In situations where the time or resources needed to conduct an informal sector survey are limited, indirect estimation methods (using national employment records) can be used to measure the size and contribution of the informal sector to the local economy. For more information, see the further information box on page 66.

How Are Informal Sector Surveys Used?

The following questions can be answered by using informal sector surveys:

- How important is the informal sector in the local economy? What is the sector’s contribution to employment, value added, or capital formation in the local economy?
- What is the composition of the informal sector in the city (in terms of type of small-scale establishments, size of establishments, sectors of economic activity, and ties to the formal sector)?
- To what extent does the informal sector have access to financial and public infrastructure? What are the other barriers to growth?
- How well are informal enterprises performing (in terms of income, employment, and investment)?

What Key Inputs Are Required for Informal Sector Surveys?

To conduct an informal sector survey, the following are needed:

- Familiarity with the basic principles and methods of statistical analysis and the survey topic in question.

Tips

Ensure comparability. To compare data from the local informal sector survey with data from a national or regional survey, it is important to verify the exact definition and methodology used to measure the sector in the economy of comparison, because these can vary significantly. Similarly, to compare data on informal enterprises across different sectors of the economy, it is important to ensure that the sample sizes are large enough to enable meaningful comparison.

Ensure confidentiality. It can be difficult to get informal sector firms to agree to be interviewed for surveys, because the firm owners may fear that the data collected will be used against them (e.g., for tax collection or prosecution). Therefore, it is important to be clear in stating the purpose of the survey and to communicate that the data for individual firms are confidential and will be displayed by group only.

Be prepared for low response rates. It is not uncommon to have low response rates in informal economy surveys. It is therefore important to ensure that the sample frame takes this into account and is flexible enough to ensure that sufficient sample sizes can be captured (by sector, for example) even if response rates are low. But interview-based approaches typically achieve much higher response rates than written surveys.
An idea of the composition of the population to be studied (in this case, the population of informal sector firms) in order to collect a representative sample. Information on the population can be derived from formal statistics (although these are often unavailable), or from indirect information on the informal sector derived from other surveys.

A carefully designed and piloted survey instrument (a multiple-choice questionnaire, for example).

Trained interviewers to conduct the interviews and enter the data into a database.

A computer and software to analyse the data (Microsoft Excel or other spreadsheets; and SPSS, STATA, or an equivalent statistical programme).

**Investment Climate Surveys**

The investment climate survey (ICS) is a tool designed to elicit the perceptions of firms regarding important aspects of the local investment climate, including the quality of labour, infrastructure, and public services. In particular, the ICS is seen as a useful way to analyse institutional aspects of the local economy, including corruption, conflict resolution, and compliance burden (or red-tape) information, not readily available through existing sources (firm accounts and registers) but which can affect the investment decisions made by firms.

Based on these perceptions, the ICS is designed to identify the most important factors that determine the quality of the local business environment. The perceptions can be converted into indexes (see composite indexes on page 76 for more information) to rate the city’s investment environment relative to that of other economies (in other cities and/or countries).

Today, numerous universities, consultancies, and international organisations combine data from ICSs with other local data to produce regular rankings of the investment climate of cities, regions, or nations (América Economía’s “Best Cities for Business in America” is one example). At the city level, rankings like these are more often produced for high-income countries, although some rankings are now produced for selected major cities in the lower income countries.

The sampling procedure for the ICS is (in principle) random. But to ensure that the results are comparable across economies, the sample is often stratified by sector and size. These surveys also often emphasise that major contributors
CASE STUDY

Investment Climate Surveys—ADEN (Yemen)

The city of Aden conducted a business investment climate survey (ICS) as an input to the analysis of local economic competitiveness within the framework of the Cities Alliance City Development Strategy and the World Bank-funded Port Cities Development Program. As part of this assessment, the city made innovative use of the ICS by incorporating it into the Porter’s Diamond competitiveness framework.

The Economic and Business Opinion Survey in Aden included 46 questions adapted from the Executive Opinion Survey questionnaire in the Institute of Management and Development’s 2001 IMD World Competitiveness Yearbook. The questions were rephrased as statements and organised under subheadings from the Porter’s Diamond framework (firm strategies, rivalry, factors, demand, and cluster structure—see chapter 9). The respondents were asked to indicate the extent to which they agreed or disagreed (on a scale of 1 to 7, from strongly disagree to strongly agree) with survey statements on the current and future business environment in Aden. Two survey questions asked the respondents to identify the main assets in Aden and the top three priority areas where work was needed to improve the city’s competitiveness.

In total, 74 public and private sector leaders in Aden were surveyed through a written ICS questionnaire. Questionnaire results were then presented to participants in a workshop held several days after the survey was completed. The goal of the workshop was to sensitise key public and private stakeholders about the competitiveness (and the perceived competitiveness) of Aden. The survey was found to be extremely valuable. It captured perceptions on the local economy, led to discussion among local stakeholders, and as a result, the ICS has been made a regular data collection tool used by officials in Aden.

Tips

Interpret results cautiously. Perceptions about challenges in a city’s business environment must be gathered from several sources. Businesses will have one view, other stakeholders will have another. Therefore, it is important to complement perceptions-based surveys with an analysis of data about the local economy. Be aware that perceptions can change quickly due to external events (including political changes, inflation, or currency fluctuations).

Use local resources. Local business groups (including the chamber of commerce) can be a very useful resource. They can assist with sampling and with survey response rates; and they may (in some cases) have substantial internal analytical capacity that can be used to help in analysing the survey data. They can also often assist in disseminating the survey results.

Ensure confidentiality. ICSs are often limited in number, particularly in cities with a small number of firms, so it is critical to ensure that firm-level identity is protected. This may require that not all survey responses are coded and presented in responses that are broken down by sector or firm size (which in some cases can reveal the obvious identity of responding firms).

Make use of existing survey instruments. A number of existing investment climate and business attitude surveys can be adapted to meet the specific survey needs of cities. For some examples of these, refer to the further information box on page 68.
How Are Investment Climate Surveys Used?

The following questions can be answered by using investment climate surveys:

- How do investors perceive the local economy as a place of business?
- How attractive is the investment climate of the local economy?
  - How good is the quality of public services and infrastructure in the local economy?
  - How reliable, skilled, and competent is the labour force of the local economy?
  - Are quality goods and services accessible to firms?
  - How does the level and quality of infrastructure support or constrain firms?
  - How reliable, efficient, and transparent is the local government and its agencies in dealing with firms?
  - Is sufficient local financing available to support investment?
  - How reliable, efficient, and transparent is the judicial system (in relation to contract enforcement)?

What Key Inputs Are Required for Investment Climate Surveys?

The following are needed to conduct an investment climate survey:

- Familiarity with both the basic principles and methods of statistical analysis and the topic in question.
- An idea of the composition of the population to be surveyed (in this case, the population of firms) in order to compile a representative sample. In most cases, a registry of formal firms that can be used as a sample frame is available from local tax and/or other agencies. Information about the sectoral composition of firms may be available from national statistical bureaus and/or other surveys.
- A carefully designed and piloted survey instrument (a multiple-choice questionnaire, for example);
- Trained interviewers to conduct the interviews and enter the data into a database.
- A computer and appropriate software to analyse the data (Microsoft Excel or other spreadsheets; and SPSS, STATA, or an equivalent statistical programme).

Business Outlook Surveys

The business outlook survey, also called the business tendency survey, is a tool used to collect data on firms’ perceptions of current local business performance and the overall business environment. The survey also collects their forecasts and intentions for the future. At the national level (and in some large cities), surveys of this type are typically conducted...
on a quarterly basis, because they are believed to provide valuable input into short-term economic analysis and policy making. Therefore, it is important for the survey design and fieldwork execution to be streamlined and simple to expedite data output. This generally makes it less suitable for inclusion in another survey. However, on a city level, it is common for these surveys to be conducted every six months or annually and then integrated into an existing firm survey.

The business outlook questionnaire is designed to be simple and quick to complete and to analyse; questions are straightforward, there should be no need for firms to consult their records, and the form is often no more than two pages long. The questions typically focus on whether the person interviewed expects key indicators of business performance (including exports, revenues, investments, and employment) to remain stable, increase, or decrease. In some cases, managers are asked to estimate the expected level of change (in percent) and list the primary obstacles to growth in the local economy. The data can be made into an index (see composite indexes on page 76 for more information), often referred to as the confidence index, which allows for comparison with other economies.

The firms interviewed are most often selected through a random sampling procedure that is sometimes stratified. But if the survey is to be conducted regularly and frequently (twice a year or per quarter), a large proportion of the sample is fixed (to make the sampling procedure more efficient), whereas the other portion of the sample changes (to ensure that part of the sample is random). In some cases, the sample may focus on a few larger firms with greater impact on the local economy.

How Are Business Outlook Surveys Used?

The following questions can be answered by using business outlook surveys:

- How confident are local businesses about the short- and medium-term economic outlook at the national level?
- What is their business outlook?

CASE STUDY

**Business Outlook Surveys—MUNICH (Germany)**

The Department of Labour and Economic Development in Munich is interested in business outlook data because it provides good indicators of expected investment and employment trends in the city. Therefore, the department conducts an annual business outlook survey of local firms with a focus on understanding the firms’ confidence levels, outlook, and growth expectations for sales, investment, and employment. This quantitative survey is designed and conducted in-house, with qualitative questions on issues of special interest added to the survey when relevant. The annual survey results are published in an annual economic assessment report (the Münchener Jahreswirtschaftsbericht).

The city also uses information from third-party business outlook studies conducted at the national level. For example, the Department of Labour and Economic Development monitors the monthly Business Climate Index for German industry developed by the Institute for Economic Research (Ifö, Institut für Wirtschaftsforschung) at the University of Munich. This index is based on about 7,000 monthly survey responses from firms in the construction, manufacturing, wholesale, and retail sectors. As part of the survey, firms provide their assessments of the current business situation and their expectations for the next six months.
What are the current revenue, employment, and/or investment level forecasts for the city’s businesses?
What are their main economic concerns?

**What Key Inputs Are Required for Business Outlook Surveys?**

To conduct a business outlook survey, the following are needed:

- Familiarity with both the basic principles and methods of statistical analysis and the topic in question;
- An idea of the composition of the population to be surveyed (in this case, the population of firms) in order to collect a representative sample. In most cases, a registry of formal firms that can be used as a sample frame is available from local tax and/or other agencies. Information about the sectoral composition of firms may be available from national statistical bureaus and/or other surveys;
- A carefully designed and piloted survey instrument (a multiple-choice questionnaire, for example);
- Trained interviewers to conduct the interviews and enter the data into a database; and
- A computer and appropriate software to analyse the data (Microsoft Excel or other spreadsheets; and SPSS, STATA, or an equivalent statistical programme).

**Tips**

Be cautious in interpreting the results. What firms perceive as important for the local economy (and for their own growth) is important, but may not fully reflect the full range of local perceptions. Therefore, it is important to compare the results of perception-based surveys with the objective analysis of economic data. It is also important to recognise that perceptions can quickly change due to external events, including political change, inflation, or currency fluctuations.

Use local resources. Local business groups (chambers of commerce, for example) can be useful resources in the survey process. These groups can not only assist with sampling and survey response rates, but may (in some cases) have substantial analytical capacity and be able to help disseminate survey results.

Track results against actual developments. To determine how accurate survey responses are, it may be useful to compare the responses received with actual trend data (using sectoral data on the indicators in question).

Ensure confidentiality. Because business outlook surveys are often limited in number, particularly in a city with a small number of firms, it is critical to ensure that firm-level identity is protected. This may require not coding and presenting the survey responses by sector or firm size (which, in some cases, can reveal the obvious identity of the responding firm).

**Further Information**


For guidelines and a standard questionnaire format for business outlook surveys, see the OECD’s “Business Tendency Surveys: A Handbook” at: http://www.oecd.org/document/49/0,2340,en_2649_201185_33660209_1_1_1_1,00.html.

For guidelines on the use of indexes in business outlook surveys, see: https://www.richmondfed.org/publications/economic_research/economic_quarterly/pdfs/fall2005/sarte_owens.pdf.

For examples of Business Outlook Surveys in cities, see:

Participatory Issues Analysis

Participatory processes are also used to validate the outcomes of local economy assessment and strategy development processes.

Participatory Data Collection

This approach uses participatory processes to collect quantitative data and information about specific aspects of the local economy. In theory, a participatory approach can be used to collect details about firms (including employment and firm size) and on households (demographics). However, collecting data in this manner is considered to be a last resort (when no local-level data exist and surveys cannot be conducted because of lack of time, budget, or capacity), because it is generally very difficult to collect accurate quantitative data in public meetings and seminars like the ones where participatory approaches are sometimes used. But when qualitative data are needed for specific sectoral research processes, focus groups and small workshops are effective. Therefore, this technique is often used in very specific sectoral research (mapping linkages between firms within a specific sector, for example).

Participatory Issues Identification

Participatory processes that involve stakeholders are typically used to collect perceptions on issues in the local economy. This may include identifying the issues that currently constrain development of the economy and/or identifying opportunities and sources of competitive advantage for the local economy. Seminars and workshops are commonly used for participatory issues identification, and deciding who to involve in these sessions is always an important issue. Some cities host large, open workshops with a wide range of stakeholders, and they value having inputs from many types of stakeholders. Other cities find it more effective to host several small sessions with groups of similar stakeholders, so that specific issues can be addressed.

CASE STUDY

Participatory Processes—SAN FERNANDO (Philippines)

San Fernando makes extensive use of participatory processes in the local economy assessment and ongoing monitoring. The main purpose of these activities is to collect data and perceptions about local conditions and to establish priorities for the city strategy. In launching its initial city development strategy (CDS) in 1999, San Fernando established the representative structures that enabled participation by stakeholders, including representatives from the Philippines’ national government, nongovernmental organisations, academics, churches and religious groups, and other groups (including the agricultural sector, senior citizens, young people, and women). San Fernando now uses a participatory issues identification process facilitation tool that first identifies a list of relevant issues, groups them into related issues, and then identifies and prioritises the issues of common concern based on an agreed upon criteria.

The initial participatory sessions in San Fernando have now expanded to such a degree that the assessment is viewed as a continuous process rather than one element of the CDS. On average, each main stakeholder group participates in at least one forum every quarter, including workshops, writeshops, focus group discussions, and general assemblies. An interactive Web page also facilitates participation.
The second critical issue in using this tool is to manage the discussions effectively to collect the information needed in various communities and to prioritise the issues to be addressed. For details on several facilitation techniques, refer to the further information box below.

**How Is Participatory Issues Analysis Used?**

The following questions can be answered by using participatory issues analysis:

- What do stakeholders see as the strengths and weaknesses of the local economy?
- What do stakeholders believe are the most important issues that need to be addressed in order to improve local economic competitiveness? What opportunities need to be exploited to stimulate the local economy?
- What are the causes and consequences of the issues that need to be addressed? What are the sources of local opportunities and what potential might be realised by exploiting them?
- How are various issues and opportunities linked?

*Please note:* In some circumstances it is possible to use participatory techniques to collect quantitative data and information (about firms and households), but this is generally not the best approach.

**tips**

Combine participatory processes with objective data when possible.

Although participatory issues analysis is a critical assessment tool, it is important to remember that the output is always perception-driven. Different stakeholders often have very different perspectives on the same issues. So objective data should be used when possible, as a complement to inputs received through participatory processes.

Make sure to provide feedback. Cities often forget to communicate the results of the participatory sessions back to participants in a timely fashion. When possible, arrange a follow-up session and/or publication to summarise the results of the session. This allows participants to correct errors or adjust input and helps ensure the momentum of the process.

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**What Key Inputs Are Required for Participatory Issues Analysis?**

To conduct a participatory issues analysis, the following are needed:

- An identified set of stakeholders who should be involved in the process;
- A carefully planned session(s) designed to capture the data and information desired;
- Trained facilitators to manage the session;
- Facilities to comfortably host the session(s); and
- Staff with administrative and organisational skills who can take notes, prepare minutes of the session, and summarise and present the opinions and issues discussed during the sessions.

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**Further Information**

For general information on organising and implementing participatory methods, see: The “Participatory Methods Toolkit” prepared by Brussels-based ViWTA: http://www.viwta.be/content/en/prj_Public_participation.cfm.


For more information on how to manage participatory approaches, see the Philippines’ CDS Toolkit at: http://www.cdsea.org/db/CDSContent.asp?ID=11.
This chapter discusses the tools that cities and city-regions can use to analyse data collected on their economies. All of these have been tried and tested in actual city development strategies (CDSs). A few other tools not yet widely applied in city planning environments have also been included.

**Time Series Analysis**

**What Issues Are Addressed by Time Series Analysis?**

The following questions can be addressed by a time series analysis:

- How is a local economy performing over time?
- Population and other demographics (including education and labour force)
- Income levels and distribution
- Employment and unemployment levels (total economy and by sector)
- Economic output and exports (total economy and by sector)
- Which growth patterns reflect shocks and cycles and which are long-term trends?

**How Is Time Series Analysis Used?**

Time series analysis is one of the most widely used tools in local economy assessments. It maps the development of key socioeconomic indicators over a period of time and displays them in tables and graphs (line graphs or bar charts). Changes over time are expressed through annual growth percentages and compound annual growth rates (CAGR) and growth indexes. One of the great advantages of this analysis versus more static snapshot type tools is that it enables cities to determine whether an indicator for a specific year is a shock or the result of a long-term trend. Table 8.1 is a basic example of the use of time series analysis for looking at local employment levels (by sector) in a basic three-sector economy.
In addition to tables, time series analysis is normally presented using graphics, most often trend lines, histograms, and bar charts.

Time series analysis is often used in combination with sector share analysis, value-added analysis, and benchmarking, and is fundamental to developing growth indexes. In particular, the trends of the key indicators in question are often tracked against national trends, since this may reveal whether, for example, a recession is a local phenomenon or a reflection of a wider trend experienced at the national level.

### CASE STUDY

**MUNICH (Germany)**

Time series analysis is one of the most frequently used tools in Munich’s annual local economy assessment. It is used to analyse and present trends over time for key LED indicators, including employment levels, sector growth, and unemployment levels. Although time series data are typically analysed on a five-year cycle, analyses of medium-term trends (over periods of 10 to 20 years) are also conducted. Munich places particular emphasis on benchmarking its performance (by comparing its performance with other German and international cities), so it analyses and presents comparable historical data for benchmark cities as well.

Munich presents the findings from its time series analysis in several ways, including bar charts, graphs, and tables. And the visual presentation of findings is accompanied by a clear narrative explanation of trends and the main conclusions to be drawn from the analysis.

In addition to tables, time series analysis is normally presented using graphics, most often trend lines, histograms, and bar charts.

### Tips

**Compare with regional/national/trends.** Time series analysis can be especially helpful when comparing local trends with regional and/or national ones. However, because of the differing size of the economies surveyed, the data are not always directly comparable, so it is useful to construct a growth index (see page 75) to aid in comparisons.

**Complement the data with insights from experts and literature.** Time series analysis displays trends for the economic indicators in question but does not explain or analyse them, and it does not provide predictive power. By consulting relevant experts and literature in addition to conducting a time series analysis, cities may be able to identify the factor(s) that explain, for example, a sudden change in a particular sector (decline in demand, increased competition, or rapid structural changes) and be in a better position to assess the future competitiveness of the local economy.

**Making the best use of visual tools.** Spreadsheet software like Microsoft Excel provides valuable tools that can be used to plot graphs for time series analysis. Visual tools can be powerful and communicate information effectively. However, keep the target audience in mind and develop graphs and explanatory text appropriately.
What Key Inputs Are Required for Time Series Analysis?
This analysis requires data for the selected socioeconomic indicator (including employment, gross domestic product [GDP], and population size) over several years.

Time series analysis is easy to conduct and does not require any knowledge of econometrics beyond basic statistical analysis. This analysis does not require any special resources other than data and human resources, but spreadsheet software with the capability to plot graphs is useful. When comparable national and local level data are available, and other data collection is not required, the analysis has a low resource intensity.

Growth Indexes
What Issues Are Addressed by Growth Indexes?
The following questions can be addressed by growth indexes:

- How do various aspects of the local economy’s performance compare with other economies over time?
- Which local growth patterns are driven by shocks or cycles? And which patterns are long-term trends?

How Are Growth Indexes Used?
The growth index is one of the most commonly used tools in analysing the local economy. It is a simple and cost-effective way to measure and compare local economic performance with that of another economy (or economies), because it allows for direct comparison of a particular socioeconomic indicator between two or more economies over time. The growth index is often used to apply benchmarking comparisons to a basic time series analysis.

The growth index converts absolute data (including employment, output, and productivity) in a reference year for any number of economies into a common value (normally 100). This enables simple comparisons of relative performance, particularly for absolute values that differ substantially. To calculate a growth index, set the “year n” at 100; for each subsequent year the formula is then:

\[
\text{Year } n + 1 \text{ index} = \left( \frac{\text{year } n + 1}{\text{year } n} \right) \times 100; \quad \text{Year } n + 2 \\
\text{index} = \left( \frac{\text{year } n + 2}{\text{year } n + 1} \right) \times \left( \frac{\text{year } n + 1}{\text{year } n} \right), \quad \text{etc.}
\]

These values can then be presented in a tabular format (see table 8.2) and also using line charts and bar charts.

An advantage of using indexes to compare local indicators with regional or national indicators is that an index may reveal, for example, whether an economic phenomenon (like recession) represents a wider trend experienced on a national level or if it is a more local event.

What Key Inputs Are Required for Growth Indexes?
This type of analysis requires at least two years of time series data, for the local economy and for a reference economy.
CASE STUDY

**RAFAELA (Argentina)**

The city of Rafaela calculated a growth index to make comparisons across firms of different sizes (based on the number of employees, fewer than 5, 6–10, 11–20, 21–50, 51–100, and more than 100) over a period of four years (1997–2001). The number of firms per category was converted into a common value of 100 for the reference year (in this case 1997). The employment growth trend was then tracked for the next three years, based on the reference year, and presented in a histogram. By using the growth index, Rafaela was able to compare employment growth across categories of firms—despite the fact that the number of firms in each category varied substantially during this time period.

**Tips**

Complement the data with insights from experts and literature. Growth indexes display trends for the indicators in question but do not explain or analyse them. And these indexes do not have predictive power. By consulting relevant experts and literature, in addition to a time series analysis, it may be possible to identify the factor(s) that drive a sudden change in a particular sector (increased competition, rapid structural changes, or decline in demand, for example)—which would help the city to assess the likely future competitiveness of the local economy.

Making the best use of visual tools. Spreadsheet software like Microsoft Excel offers valuable tools for plotting graphs of growth indexes. These visual tools can be powerful and can often communicate information more clearly than detailed data tables. But graphs can also be misused and (in some cases) make information less clear (as is sometimes true for three-dimensional bar charts, for example). In general, simple graphs with clear explanatory text work best.

**Further Information**

For guidelines on constructing a growth index, and an example of its use in the United States, see: http://www.economictoolbox.geog.psu.edu/index.php.

For guidelines and an illustration on how to construct and use a growth index, see: http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html.

For an example of how growth indexes are used in a benchmarking analysis by the City of Glasgow (Scotland), see Glasgow Economic Analysis and Benchmarking Study 2005 (beginning at page 14): http://www.glasgoweconomicfacts.com/Glasgow%20Report%20BAK%20-%20Executive%20Summary%20Des%204.pdf.
and deprivation (as in the UN-HABITAT City Development Index and UNDP’s Human Development Index).

The advantage of using this approach rather than a set of individual indicators is that a composite indicator provides a better picture of complex issues and simplifies the rankings and comparisons. Composite variables are also seen as a particularly effective way to communicate trends of interest to policy makers and local stakeholders.

Calculating composite indicators often involves using a group of statistical methods called data reduction techniques. Two of the more common techniques are principal component analysis, which identifies groups of indicators whose scores (or behaviour) are driven by the same underlying factor, and unobserved component analysis, which removes outlying indicators. A simpler way to construct composite indicators is to weight individual indicators according to importance and add the results. Table 8.3 shows an example of how the composite index (total adjusted score) would be calculated using this method. (Based on a simple composite of three factors, the weighting of the factors should add up to 1.0.)

### Tips

*Consider costs and benefits.* Oversimplification can be a problem when using composite indicators, because socioeconomic situations are often too complicated to be adequately captured within a single index. In some cases, presenting several key indicators (possibly in addition to a composite) may give a more balanced picture.

*Select the right indicators.* A composite index is only as good as the indicators used to construct it. Therefore, it is important to think and assess carefully before aggregating indicators into a composite. For example, do the indicators measure elements of the same phenomenon? How might the indicators be interrelated? To test a composite index, replace a key indicator with an alternate indicator and make sure the results are not radically different.

*Be careful with applying weights.* From a technical standpoint, applying weights is a simple process. But the process can be politically difficult since results may be highly sensitive to the weights applied. So it is important to have a clear methodology in place for determining how to weight various factors, and the weighting process should be developed and tested with key experts and stakeholders.
The composite indicator is often tracked over time using time series analysis.

**What Key Inputs Are Required for Composite Index Studies?**

Because composite indexes are normally only constructed to simplify complex data, access to fairly extensive data is a requirement for using this tool. Such data may come from public statistical sources or may require the use of surveys (an investment climate survey, for example), depending on the information to be analysed.

For basic composite indicators that use a weighting technique, the analysis is relatively simple; it requires no econometric analysis and only a basic understanding of statistics. However, if the city plans to make extensive use of composite indexes, it will be necessary to have an understanding of more complex data reduction techniques. Statistical software packages like SPSS or STATA would be valuable to support the data reduction computation.

**Benchmarking**

**What Issues Are Addressed by Benchmarking?**

The following question can be addressed by benchmarking: How is the local economy performing compared with a reference economy in a particular socioeconomic area? For example, one can look at employment growth, exports, firm creation, GDP, investment, and innovation.

**How Is Benchmarking Used?**

Originally created as a business development tool, benchmarking analysis is today widely used by local and national governments to assess competitiveness and formulate strategy. Benchmarking can be used to explain relative performance versus quantitative outcome measures, but it can also be used to compare qualitative factors and processes (such as how business support is provided). Benchmarking has become partic-
ularly popular as local economies increasingly design LED strategies using the competitive advantage framework.

The main benefit of benchmarking is that it helps cities identify areas of improvement—a good way to measure performance of a local economy. Using this approach, it is often easier to see how well the local economy is performing when compared with an economy with similar growth conditions.

Benchmarking analysis can be conducted for the overall economy, but is more often used to analyse specific sectors or topics. This is because benchmarking that relies heavily on quantitative statistical analysis can be resource intensive (with regard to acquiring data on the benchmark economy or economies in question).

Cities typically benchmark aspects of their economy against the wider region and nation or against similar cities. So one of the biggest challenges to conducting this analysis is to ensure that the comparisons made are appropriate.

The benchmark economy and the local economy should be similar—based on the areas in which the economies compete and the economic structure. Using a substantially different benchmark economy in the analysis is not likely to give an accurate picture of regional performance or offer much guidance on what could be improved.

The data used for benchmarking analysis can be acquired from several sources, including regional and/or national statistical bureaus in the benchmark economy. Or it may be possible to exchange information with the city or region chosen as a benchmark (e.g., directly with the benchmark city or working through a city network). In some cases, the benchmark economy may have conducted an investment climate or equivalent survey, and it may be a good idea to replicate that survey for comparison in the local economy.

What Key Inputs Are Required for Benchmarking?

Benchmarking analysis can be demanding in several ways. First, the analysis requires data for at least two cities: the city

CASE STUDY
SAN FERNANDO (Philippines)

San Fernando, along with 65 other cities in the Philippines, is involved in the Asian Institute of Management’s (AIM) Philippines Cities Competitiveness Ranking Project (PCCRP), run by the Asian Institute of Management (AIM) Policy Center in collaboration with the United State Agency for International Development (USAID), the Asia Foundation, and GTZ.

The benchmarking tool used for the project is based on the annual Institute of Management Development’s IMD World Competitiveness Yearbook and covers the following competitiveness issues: accessibility, cost competitiveness, dynamism of the local economy, human resources and training, infrastructure, linkages, responsiveness of local government, and quality of life.

Data are derived from secondary sources, and a survey is undertaken specifically for the project. Scores for each indicator are converted into a 10-point scale based on global and national benchmarks. The output from the PCCRP is seen as extremely valuable in assessing local economic competitiveness. But it is difficult to ensure that the project is fully institutionalised (or embedded in the ongoing local strategy process) so that updated data remain available. The League of Cities of the Philippines, which oversees the city development strategy (CDS) process in the country, is integrating the PCCRP survey output into the CDS process.
studied and a reference economy. Getting access to these data and determining how the data were obtained can be challenging. Many cities obtain data for benchmark analysis through city networks, and others use data from established indexes (including competitiveness and quality of life indexes).

Benchmarking does not require sophisticated econometric knowledge, but it does usually require basic statistical knowledge, in addition to some basic training in benchmarking. These skills are needed to ensure that the tool is applied effectively and that appropriate conclusions are drawn from the analysis. Specific software or analytical resources are not required. Overall, the tool has moderate resource intensity.

Geographical Information System (GIS) Mapping

What Issues Are Addressed by GIS Mapping?

The following questions can be addressed by GIS mapping:

- Where are firms located in the city or region?
- How does the sector composition of the economy play out spatially? Where are the concentrations of specific sectors?
- Where is industrial land located?
- Where are economic activities in relation to the labour force?
- Where are economic activities in relation to critical infrastructure?

How Is GIS Mapping Used?

GIS analysis is a computer-based tool that analyses spatial data from a database and displays the results in the form of
a map. By overlaying geographical information (actual geographic location of something on a map) and economic data (such as economic activity or employment data), GIS analysis can provide a powerful spatial analysis of the local economy.

Historically, GIS analysis has been most often used by governments in land planning and natural resource management; but this tool is increasingly used by LED practitioners. For example, GIS is now used to map out firm distribution as part of conducting a cluster analysis, and to identify areas for upgrading and regeneration programmes. The example in figure 8.1 shows how GIS mapping was used in China to define the spatial patterns of economic growth as part of the Lanzhou Municipality CDS process.

**What Key Inputs Are Required for GIS Mapping?**

Using this tool requires access to GIS software and training in how to use it. Some knowledge and understanding of spatial analytical techniques is also valuable. GIS does not require specific econometric knowledge, but this depends, in part, on the types of analysis to be conducted using this software.

Using GIS tools requires fairly extensive data access. The type of data needed depends on the type of analysis to be conducted. But it is always necessary to have detailed geographic information (including a database of maps that are linked to the latitude and longitude coordinates of specific locations). When the appropriate data and software are available, the analysis has a moderate resource intensity.
PEST/Trends Analysis

What Issues Are Addressed by PEST/Trends Analysis?

The following questions can be addressed by PEST/trends analysis:

- What aspects of the macroeconomic environment could impact the local economy?
- What are the implications of these factors for the local economy (now and in the future)?

How Is PEST/Trends Analysis Used?

Trends analysis looks at aspects of the macroenvironment (those largely outside of the control of local stakeholders) that are most likely to affect the local economy in the future. One of the most commonly used trends analysis tools is PEST, which looks at the political, economic, social, and technological factors of the external environment, as shown in figure 8.2.

The PEST analysis (and trends analysis in general) typically focuses on qualitative issues and is designed to ensure that the competitiveness assessment and resulting strategies...
take account of likely developments in the macroeconomic environment. A key advantage of PEST analysis is that it provides a structured and simple way to organise, analyse, and present a wide range of information.

**CASE STUDY**

**IVANO-FRANKIVSK (Ukraine)**

The city of Ivano-Frankivsk used PEST analysis as a tool to generate inputs for their SWOT analysis. In particular, the PEST tool was used to identify external opportunities and threats that might affect the city in the short and medium term.

Nine members from the Strategy Development Committee participated in a brainstorming session. The discussion was facilitated by technical staff from the United States Agency for International Development’s LED project and external consultants.

The committee members shared ideas on potential future changes across the four areas specified by the PEST analysis, and then discussed whether, and how, these issues could present opportunities and/or threats for the city. For example, could the future reform of customs regulations and tax codes (legislative and political changes) present both threats and opportunities? Could reforms of this type reduce the city’s revenue base, but also simplify administration processes and increase transparency, consistency, and stability?

In this setting, PEST analysis was seen as useful in highlighting potential drivers of change in Ivano-Frankivsk’s external environment. However, given the rapid changes being made in the city (and considerable political uncertainty in Ukraine at the time of the assessment in 2005), it was difficult for the committee to determine how the city might respond to, or prepare for, possible external changes.

**Tips**

*PEST analysis is not an alternative to SWOT analysis.* PEST and SWOT analyses are often described as similar analytical tools, but they are not. PEST focuses on analysing the external environment, so it cannot be used on its own as a framework to assess the city’s overall competitiveness, as can be done with SWOT analysis. PEST is best used first, as an input to the SWOT process.

*Make sure the analysis is dynamic.* Analyses of the city’s external environment should aim to uncover key trends that are likely to affect the city in the future. The focus of a PEST assessment should be forward-looking.

*Carefully analyse each factor.* A simple list of factors that affect the local economy has limited value. To maximise the value of a PEST analysis exercise, it is important to think through what each of the factors means and decide which are likely to have the greatest impact on the local economy.

**Further Information**

For a brief discussion of and a free template for PEST analysis in a business context, see: [http://www.businessballs.com/pestanalysistemplate.htm](http://www.businessballs.com/pestanalysistemplate.htm).

For a discussion of the use of PEST analysis in a business context, see: [http://www.themanager.org/Models/PEST_Analysis.htm](http://www.themanager.org/Models/PEST_Analysis.htm).

For a set of guidelines to and a free worksheet for a PEST analysis, see: [http://www.mindtools.com/pages/article/newTMC_09.htm](http://www.mindtools.com/pages/article/newTMC_09.htm).

Trends and PEST analyses lend well to participatory approaches. They are normally used as inputs to SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis—in particular, to add a more dynamic perspective to the analysis. Trends and PEST are also used to identify possible futures in scenario planning. (For a discussion of SWOT analysis, see chapter 9 of this Resource Guide.)
What Key Inputs Are Required for PEST/Trends Analysis?
Trends analysis can be effective with limited quantitative/statistical data input, and it commonly draws on qualitative input from an internal and/or external expert panel. A PEST analysis can also be completed in a larger participatory forum with a trained facilitator. The analysis can be conducted with relatively limited resources and analytical capacity.

Sector Share Analysis
What Issues Are Addressed by Sector Share Analysis?
The following questions can be addressed by a sector share analysis:

- What is the basic structure of the city’s economy?
- Which sectors contribute the most to GDP, overall employment, and output?

How Is Sector Share Analysis Used?
Sector share analysis is probably the most common tool used to analyse the city economic structure. It identifies significant industries in the city-region and provides important insights into how global and national sectoral trends might affect the local economy.

This type of analysis takes data on employment and/or output (such as GDP and total production) in each sector and calculates them as a share of the total economy. The results are then presented in a table or in a graph. Industry shares are usually based on widely-used standard classification codes (such as SIC, SITC, NAICS, or HS). However, data are sometimes collected only at a broad level of aggregation (such as for primary, secondary, and tertiary industries).

Because the sector share analysis only provides a static picture of the economy, it is most often used as a starting point for wider analysis. For example, it is often used with time series analysis, PEST/trend analysis, shift share analysis, input-output analysis, and location quotients. For cities that are conducting a local economy assessment for the first time, sector share analysis is a critical starting tool that gives insight into the local economic structure.

What Key Inputs Are Required for Sector Share Analysis?
The data required for sector share analysis are often available from local, regional, or national statistics bureaus. Cities that do not already have these data may want to use an industrial

CASE STUDY
KARU and BOBO-DIOULASSO

KARU (Nigeria)
Karu used a sector share analysis in conducting its first local economy assessment in 2002. City administrators in Karu knew very little about the basic composition of the local economy, so the sector share analysis was the single-most important tool used in the assessment. The analysis was designed to identify the main sectors of the city’s economy and, in particular, to assess the relative importance of the formal and informal sectors.

Because of the near absence of formal statistics to describe the economy of Karu, data were collected using an industrial structure survey and an informal sector survey. The sector share analysis then compared the contribution of each of the sectors, by number of employees and the value of sales and output. Separate analyses were conducted for the formal and informal sectors, and these analyses were then compared to determine the relative importance of the different sectors.

The use of this analytical tool was considered highly successful because it not only shed light on the basic structure of Karu’s economy, but it also helped to identify important stakeholders in the private sector. In particular, the analysis highlighted six main business sectors from which stakeholders were invited to participate in the city development strategy process.

BOBO-DIOULASSO (Burkina Faso)
Bobo-Dioulasso’s share analysis was derived from Burkina Faso’s national statistics. Much of the sectoral data were extracted from breaking down national aggregates at the local level to extract a rough overview of the sectoral structure of the economy. Field data were then used to corroborate the accuracy of the breakdowns of national data.

Although there is a risk of inaccuracy, sector share analysis has the benefit of generating significant sectoral data that would otherwise be difficult and costly to obtain.
structure survey to collect it. The following inputs are needed for this analysis:

- Data on the output (GDP or total production, for example) of the firms in the local economy by sector.
- Data on the number of employees of the firms in the local economy by sector.
- An agreed sector classification system (in most cases cities should adopt the system currently used regionally or nationally).
- This analysis requires little or no external capacity or statistical or econometric knowledge.
- Sector share analysis does not require any particular resources other than data and human resources. When relevant local or regional data are available (and no additional data collection is required), the analysis has low resource intensity.

**Value-Added Analysis**

**What Issues Are Addressed by Value-Added Analysis?**

The following questions can be addressed by a value-added analysis:

- Which sectors and/or firms are the most important contributors to the local economy?
How much of the output of local firms is produced within the city?

In which sectors is our economy adding higher or lower value?

How is Value-Added Analysis Used?

Value added is measured as the sales value of goods and services less the cost of inputs (materials, parts, and services) used to facilitate production. Alternatively, it can be seen as the sum of payments made to labour by firms in the city plus payments made for these firms on investments. Value-added analysis provides several important indicators on the local economy. First, as gross value added (GVA), an alternative measure to gross domestic product (GDP), this tool is a fundamental indicator of the overall economy. Value added is seen as an important measure of firm contribution to the local economy, because it looks at actual wealth creation, not just employment or output. By taking value-added data of each firm and/or sector and calculating it as a share of the total economy, value-added analysis can also be a useful approach in conducting a sector share analysis. Moreover, dividing value added by one worker, one gets a commonly used measure of productivity.

In Poznań, value-added analysis was used to demonstrate the diversity of the local economy and highlight areas of strength (its services sector, for example). However, the analysis was only conducted at a high level of sectoral aggregation (agriculture, industry, and construction, and services) because of the lack of data—a problem frequently encountered at the regional level.

In Copenhagen, however, total regional value added was divided by the average number of hours worked by employees in a year to serve as a proxy for labour productivity. This then fed into a benchmarking exercise in which the Copenhagen city-region was compared with six other European cities in four areas: innovation and specialization, entrepreneurship, use of information and communication technologies, and human resources. The percent increase in labour productivity between two years (1995 and 2000) was estimated for each city in the benchmarking exercise and displayed in a histogram as a key measure of economic performance. The consultants conducting this analysis saw the great advantage of using the value-added measure (rather than GDP per capita, for example) because value added accounted for differences in average working hours in the benchmark economies.

The most common way of estimating value added is by using input-output tables, which essentially display the value of input and output (goods and services sold) by supplier and buyer respectively. (See section on input-output analysis for further information on this technique.) Another way to collect value-added data is by reviewing company accounts (see the further information box on page 87 for an example), which may be available at a government agency; if not, relevant data may need to be collected using an industrial structure survey tool.

Tips

On using estimated data. When there are no city-level data on value added, it is possible to estimate the data using the national input-output account. This is a less costly way of obtaining value-added data than through primary data collection; but the data are also likely to be less accurate. City-regions often are more dependent on external trade than their national economy overall, so estimates based on national data may underestimate the city-regions’ dependence on imports. More sophisticated modelling techniques supported by additional data can help improve accuracy.
Value-added data at the regional or city level is often difficult to obtain, and conducting an industrial census or industrial structure survey is often too resource intensive. Therefore, value-added data are typically modelled (based on regional and national data).

Because the value-added analysis offers a simple snapshot of the contribution of firms to the economy, it is rarely used as a stand-alone tool. It is almost always used in conjunction with sector share analysis and time series analysis.

**What Key Inputs Are Required for Value-Added Analysis?**

Value-added analysis requires detailed data on firm accounts, including the value of sales and the cost of inputs. Since these data are not always available at the local or regional level, the data can be estimated using national input-output tables, although sometimes at the cost of accuracy (see tips box on page 86). Alternatively, an industrial structure survey can be used to collect local-level data on firm accounts.

Although value-added analysis is relatively straightforward, it requires some level of econometric knowledge and comfort in reading input-output tables. However, it does not require any particular resources other than data and human resources. When comparable data are available at local and national levels (and no additional data collection is needed), the analysis has a low resource intensity.

**Economic Base Analysis**

**What Issues Are Addressed by Economic Base Analysis?**

The following questions can be addressed by an economic base analysis:

- How much of the city’s economy is driven by meeting the local population needs versus selling products and services outside of the city (exports)?
- Which sectors and types of firms (by size) drive the city’s export economy?
- What proportion of the labour force in the city works in the export sectors?

**How Is Economic Base Analysis Used?**

Economic base analysis (also called export base analysis) is designed to analyse the broad economic structure of the local economy. It does this by dividing the economy into two sectors: 1) the basic or export sector (which includes all output—goods and services—sold outside the borders of the city or region), and 2) non-basic sector (which includes all output that is sold within the local economy, for example, output from local grocery retailing, hairdressing, restaurants, and other local services). Economic base analysis originates...
from economic base theory, which stipulates that inflow of money generated from the export sector is the main source of growth in an economy and determines the rate of employment and employment growth of the non-basic sectors serving local consumption. It is seen as a valuable tool, because it can be used to make relatively simple forecasts on income and employment for the local economy.

Constructing an economic base analysis involves two main steps:

1. **Determining the basic and non-basic sectors**: There are two broad approaches to assigning local economic activity to basic and nonbasic sectors. One method, the assumption technique, assumes that certain sectors, such as mining and manufacturing, are wholly basic, while others, services, for example, are wholly non-basic. This is quick and easy for analytical purposes, but inaccurate—increasingly so as the services sector becomes more globalised. The second and more common method involves calculating location quotients for each sector (employment shares of a sector vis-à-vis a reference economy, normally the national economy) and assuming that any

CASE STUDY

**MUNICH (Germany)**

Munich used economic base analysis to forecast employment levels (for total employment and at a disaggregated sectoral and spatial level) for the city and its wider city-region for the years 2005–2015. Munich conducts employment forecasts every five to six years, in an effort to understand likely changes to economic structure and employment.

Economic base analysis formed the backbone for the forecast model used in Munich. Econometric modelling was required since employment data are not captured by the official census in Germany and are not available at a spatially disaggregated level. The analysis divided the economy into three segments: the basic sector (exported products and services), the non-basic sector (local products and services), and the other services sector (which includes the public sector and other institutions with employment patterns that do not necessarily follow market rules). Local economic activity was assigned to this third sector based on the assumption technique, whereas economic activity was assigned to the basic and non-basic sectors based on location quotient (measured by employment levels in Munich versus other metropolitan regions in Germany).

Capturing growth trends in the basic sector was central to determining the employment forecasts for Munich. These growth forecasts were determined through a shift share analysis—in which the model first examined the impact of development trends in the overall national economy and then considered potential regional variation above/below the national trend for the various industrial sectors in the basic sector. A simpler approach, based on regional population growth estimates, was used to determine the growth forecasts for the non-basic sector.

Tips

*Overestimating importance of exports.* An important caveat of economic base analysis and its theoretical underpinnings is that it sees the exports as the sole driver of economic growth, neglecting the role of, for example, investments and productivity. When assessing the local economy using economic base analysis, it is important to recognise that there is considerable scope for growth outside of export; this is particularly true for larger cities and city-regions.

*Be careful comparing economic bases across locations.* Economic base analysis is designed for understanding a city’s economic structure, mainly for conducting forecasting and assessing the possible impacts of possible future scenarios on the city (see scenario planning for further information). As such, it is generally not appropriate to compare basic versus non-basic structures or even base multipliers across cities.

*Be clear on city boundaries.* The economic base analysis is focused on making the distinction between local and external economies. Therefore, defining clearly the “local economy” is critical. Is the local economy a city? A city-region? What constitutes the wider external economy? Is it a region? A nation?
employment above the reference economy average is basic.

2. **Calculating base multipliers**: The base multiplier calculates the ratio of the total employment in the local economy to the basic employment in the economy:

   \[
   \text{Base multiplier} = \frac{\text{total employment year } x}{\text{basic employment year } x}
   \]

   The base multiplier gives an understanding of how changes in employment in the basic sector will influence the overall economy.

   *Note: Economic base analysis can be calculated on both output and income, but it is typically calculated based on employment data (often readily available at the local level).*

**What Key Inputs Are Required for Economic Base Analysis?**

The data required for this analysis may not be readily available from national and local statistical sources. For this analysis, the following are needed:

- Data on national and local-level employment by sector. See location quotient below for further information on data requirements for this approach.
- To analyse economic base on output or value added, corresponding local-level data on this are needed, or the local-level data will need to be modelled based on regional or national data.

This analysis is moderately complex and requires capacity in econometric analysis. It does not require any particular resources other than data and human resources, although spreadsheet software or other statistical software (STATA, SPSS) would be useful. If comparable data at national and local levels are available and no additional data collection is required, the analysis has moderate resource intensity.

**Location Quotient**

**What Issues Are Addressed by the Location Quotient?**

The following questions can be addressed by the location quotient:

- How specialised is the city’s economy?
- In which sectors is the local economy specialised and concentrated?

**How Is the Location Quotient Used?**

Location quotient is one of the most widely used measures of specialisation and industrial concentration of a local economy. The location quotient takes the relative size of any sector (most commonly measured by employment or output) and compares it with equivalent rate in a reference economy (usually the national level). Therefore, this tool calculates how closely the local economy mirrors the structure of the national economy and in which sectors the local economy is more or less specialised. Typically, this is the primary tool used to identify where clusters may exist in the local economy (see cluster mapping, page 99, for further information).

This tool is also often used to identify the import and export sectors in the local economy, as a part of economic

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Further Information

For a discussion of the theory and application of economic base analysis, see: [http://garnet.acns.fsu.edu/~tchapin/urp5261/topics/econbase.htm](http://garnet.acns.fsu.edu/~tchapin/urp5261/topics/econbase.htm).

For guidelines and equations for economic base and multiplier models, see: [http://www.rri.wvu.edu/WebBook/Schaffer/chap02.html](http://www.rri.wvu.edu/WebBook/Schaffer/chap02.html).


For an accessible step-by-step guide to multiplier analysis, see: [http://www2.sjsu.edu/faculty/watkins/EPM01.htm](http://www2.sjsu.edu/faculty/watkins/EPM01.htm).

Most textbooks in regional science or local economic development have good explanations of the role of economic base theory and analysis. See, for example: *Local Economic Development: Analysis and Practice*, by John P. Blair, published 1995 by Sage Publications.

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Most textbooks in regional science or local economic development have good explanations of the role of economic base theory and analysis. See, for example: *Local Economic Development: Analysis and Practice*, by John P. Blair, published 1995 by Sage Publications.
base analysis (with exports defined as sales outside of the local economy, not necessarily outside of the country). Surplus employment or output in any sector of the local economy relative to the reference economy is assumed to be involved in exports, because it is in excess of what is needed to serve local demand.

The location quotient is simply the ratio of the percentage of local employment or output in any sector to the equivalent percentage for the reference economy. It can be expressed as:

\[ LQ = \frac{e_i / e}{E_i / E} \]

where \( e_i \) = local employment in industry \( i \), \( e \) = total local employment, \( E_i \) = national (or reference economy) employment in industry \( i \), and \( E \) = total national (or reference economy) employment.

A ratio of 1 indicates that the local economy and the reference economy have an identical share of an industry; a score of greater than or smaller than 1 means that the local economy has a greater or smaller share of that sector than the reference economy, respectively. Therefore, by reviewing these ratios, the major import and export sectors in the local economy are easily identified.

Locational Gini index, adjusted geographic concentration index, and entropy indexes and decompositions are similar, but more complex, spatial indexes used to measure industry concentration (see table 8.5). For information on an alternative measure of specialisation, see specialisation index.

**What Key Inputs Are Required for the Location Quotient?**

The data required for this analysis are often readily available from national and local statistical sources (especially employment data). The following data are needed for this type of analysis:

- Output and/or employment data for the city, by sector
Output and/or employment data at the national or regional level, by sector

Location quotient analysis is moderately complex and requires some minimal capacity in econometric analysis. Other than data and human resources, this type of analysis does not require particular resources, although spreadsheet software is useful. If comparable data at national and local levels are available and additional data collection is not required, location quotient analysis has a moderate resource intensity.

### Specialisation Index

#### What Issues Are Addressed by the Specialisation Index?

The following questions can be addressed by the specialisation index:

- How specialised or diversified is the local economy?
- To what extent is the local market dominated by a few firms or a few sectors?
- How reliant is the city on certain firms or sectors?

#### How Are Specialisation Indexes Used?

Specialisation indexes measure the relative concentration or diversification of a city’s economy. They can be used to understand concentration in, and reliance on, certain sectors and/or firms. Two examples of specialisation indexes follow:

1. **Herfindahl-Hirschman Index (HHI)**. HHI is a measure of market concentration that indicates the extent to which the market in question is dominated by a few firms. The
measure has traditionally been used by competition boards to supervise mergers and other structural changes in the private sector, but has also been used by cities to determine the extent to which the local economy relies upon the performance of certain key firms. Ideally, Rafaela would like to compute the index for each sector. However, the small number of businesses in the city makes it difficult to produce statistically robust results.

To compensate for this shortcoming, the HHI is incorporated into a wider analysis of the composition of the local economy in Rafaela. Specifically, the tool is complemented with a descriptive data analysis of the evolution of the market share for the top 4, 10, and 20 firms. The analysis also examines the evolution of sales, employment figures, and expansion rates by size of firm.

In 2000, the HHI was calculated by estimating each local (surveyed) firm’s share of total sales, squaring it, and adding them all up. The resulting index of 1216 indicated a moderate degree of concentration.

2. Tress index. A tress index measures the degree of concentration of a city’s economy on a sector basis. A tress index of employment contribution is determined by calculating each sector’s contribution to the local economy; multiplying each sector’s total employment by its appropriate weighting (that is, according to its share of the economy total); and calculating the sum totals of the weighted values for each sector. The totals will vary depending on the number of sectors in the economy and are then normally indexed (on a 0 to 100 index). (See growth indexes on page 75 for further information on this technique).

See location quotient for other measures to calculate specialisation.

What Key Inputs Are Required for Specialisation Indexes?

Computing the specialisation indexes is relatively straightforward and requires no specific econometric knowledge or

CASE STUDY

RAFAELA (Argentina)

In Rafaela, the Herfindahl-Hirschman index is created in relation to the industrial census the city conducts every five to six years. (See industrial structure survey on page 62 for further information on the industrial census.) Rafaela sees the HHI as an important tool because it indicates the extent to which the local economy relies upon the performance of certain key firms. Ideally, Rafaela would like to compute the index for each sector. However, the small number of businesses in the city makes it difficult to produce statistically robust results.

To compensate for this shortcoming, the HHI is incorporated into a wider analysis of the composition of the local economy in Rafaela. Specifically, the tool is complemented with a descriptive data analysis of the evolution of the market share for the top 4, 10, and 20 firms. The analysis also examines the evolution of sales, employment figures, and expansion rates by size of firm.

In 2000, the HHI was calculated by estimating each local (surveyed) firm’s share of total sales, squaring it, and adding them all up. The resulting index of 1216 indicated a moderate degree of concentration.

Tips

Complement with qualitative analysis. Quantitative data on firm and sector specialisation provide important insights into the structure of the local economy. However, in order to assess and understand the implications of apparent concentrations and specialisations, it is critical to also understand details on the activities and scope of these sectors and firms in the city, in addition to global trends.

Be sensitive to spatial scale of measurement. The score for specialisation indexes will depend substantially on the spatial scale of measurement. If the difference between the economic structure and the size of the region and the city is substantial, then the specialisation indexes may give an incorrect impression of specialisation.
Software tools (with the exception of basic spreadsheet software). The analysis does, however, require detailed information on employment (and possibly output) for firms and sectors in the city economy. When the appropriate data are available, this tool has a relatively low resource intensity.

**Shift Share Analysis**

**What Issues Are Addressed by Shift Share Analysis?**

The following questions can be addressed by a shift share analysis:

- How well are the different sectors in the local economy performing relative to a reference economy?
- How much of the employment growth experienced by a local economy can be accounted for by the national growth rate?
- How much of the employment growth experienced by a local economy can be accounted for by the mix of industries in a local economy?
- How much of the employment growth experienced by a local economy can be accounted for by local factors?

**How Is Shift Share Analysis Used?**

The shift share analysis assesses the performance of the sectors of a local economy—typically measured by employment growth—relative to a larger reference economy (most commonly the national economy). This tool is seen as a relatively simple and effective way to measure the competitiveness of both individual sectors and the overall economy.

Specifically, the shift share analysis calculates how much of the employment growth experienced by a local economy in a specific time period can be accounted for by: 1) the economy’s mix of sectors, because different sectors grow at different rates; 2) the national growth rate, because a certain similarity between national and local employment growth is a reasonable expectation; and 3) local factors, because a local economy may possess a competitive advantage in certain sectors. If a city’s employment in a sector is growing at a faster rate than the national employment growth in the sector would suggest, the local economy is assumed to possess a competitive advantage in that sector.

Calculating the shift term for a sector involves first calculating the growth rates for the local economy and for the reference economy (either the regional or national economy).
This is calculated as:

\[
\text{Growth rate} = \frac{(e_2 - e_1)}{e_1}
\]

where \(e_2\) = employment at time period 2, and \(e_1\) = employment in time period 1. The shift term is then calculated as:

\[
\text{Growth rate sector } x \text{ (local economy)} - \text{growth rate sector } x \text{ (reference economy)}
\]

If the shift term is positive, the local economy is growing faster than the reference economy in the specific sector. But a negative shift term indicates that the local economy is growing slower than the reference economy in the sector.

It is important to note that a sector may experience a declining employment rate and simultaneously increasing output, so a local economy may actually possess a competitive advantage in that sector (despite shift share analysis results indicating otherwise). Therefore, the traditional employment-based shift share analysis has been extended to

\[
\text{Port and city view of Glasgow, Scotland}
\]

**Tips**

*Be sensitive to spatial scale of measurement.* The outcome of the shift share analysis will depend on the spatial scale of measurement. This is particularly important to take into account when using regional employment data to measure specialisation at the city level. If the difference between the economic structure and the size of the region and the city is substantial, then the shift share analysis is likely to give an incorrect impression of specialisation.

*Complement the analysis with industry experts and literature.* The shift share analysis only indicates which sectors of the local economy seem to possess a competitive advantage, not the source of this competitive advantage. By consulting industry experts and literature, it may be possible to identify the factor(s) underpinning a local competitive advantage—for example, quality of local endowments, availability of factors of production, and market access for particular products.
include average factor (capital and labour) productivity for sector and/or region.

What Key Inputs Are Required for Shift Share Analysis?
This type of analysis requires local and national (or regional) employment data by sector for at least two separate years. For the extended version of the shift share analysis, productivity data are also needed, overall or by factor (capital and labour) on a national (or regional) and local level.

Other than data and human capacity, the only resource required to conduct shift share analysis is basic spreadsheet software. The analysis is of moderate complexity and requires some limited econometric capacity.

Input-Output Analysis

What Issues Are Addressed by Input-Output Analysis?
The following questions can be addressed by an input-output analysis:

- What are the economic linkages between sectors in the local economy?
- How do changes in one sector affect other sectors in the local economy?
- How do changes in sectors affect overall economic activity in the local economy?

How Is Input-Output Analysis Used?
This tool is widely used in local economy analysis to determine linkages between sectors in the economy, by breaking down inputs into each sector (by contributing sector) and outputs from each producing sector (to consuming sectors). An input-output table therefore provides a summary of the transactions occurring within an economy over a selected time period, showing, for a given industry, the industries from which it purchases and the industries to which it sells. Input-output tables also show the use of industry production in private and government consumption, and the use in investment and sales outside of the region (exports). Table 8.4 provides a basic example of how a simple input-output table might look for a typical three-sector economy.
The input-output analysis is an essential tool in local economic planning that can be used for a range of analyses. It is useful in understanding the structure of the local economy (especially the linkages between sectors and firms), and therefore it is frequently used in relation to value chain and cluster-mapping exercises. (See cluster mapping on page 99 and value chain analysis on page 101, for further information).

This tool is also important for seeing how changes in one industry affect another. It is therefore of particular use in economic forecasting or scenario planning as part of the economic assessment and strategy process. (See scenario planning on page 118 for further information).

What Key Inputs Are Required for Input-Output Analysis?

This type of analysis typically requires detailed statistical information on sectors in the local or regional economy. These data need to be disaggregated by sector and available at the regional level. (Note: Where statistical data are not available, data can be collected through a detailed survey of all industry sectors in the local economy. However, this can be time and resource intensive.)

Input-output analysis is complex and requires significant capacity in econometric analysis.

### TABLE 8.4 Example of an Input-Output Table for a Three-Sector Economy

<table>
<thead>
<tr>
<th>Economic activities</th>
<th>Inputs to agriculture</th>
<th>Inputs to manufacturing</th>
<th>Inputs to services</th>
<th>Final demand</th>
<th>Total output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>5</td>
<td>15</td>
<td>5</td>
<td>20</td>
<td>45</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>10</td>
<td>40</td>
<td>20</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>Services</td>
<td>20</td>
<td>80</td>
<td>100</td>
<td>50</td>
<td>250</td>
</tr>
<tr>
<td>Labour</td>
<td>20</td>
<td>20</td>
<td>40</td>
<td>0</td>
<td>80</td>
</tr>
</tbody>
</table>

The input-output analysis is an essential tool in local economic planning that can be used for a range of analyses. It is useful in understanding the structure of the local economy (especially the linkages between sectors and firms), and therefore it is frequently used in relation to value chain and cluster-mapping exercises. (See cluster mapping on page 99 and value chain analysis on page 101, for further information).

This tool is also important for seeing how changes in one industry affect another. It is therefore of particular use in economic forecasting or scenario planning as part of the economic assessment and strategy process. (See scenario planning on page 118 for further information).

**Tips**

- Exert caution with using estimated data. Input-output tables can be estimated using national input-output accounts. This is a less costly way of getting value-added data than through primary data collection, but the data may also be less accurate. Regions tend to be far more dependent on external trade than the national economy, so estimates based on national data may underestimate the dependence on imports.

- Be aware of structural inter- and intra-industry changes. If the input-output links between sectors and firms are changing rapidly, then the role of input-output analysis in forecasting is quickly made redundant. In cases where the local economy is believed to be undergoing significant structural change, it may be best to consider collecting additional information about these changes through surveys to account for them in a forecasting exercise.
The following questions can be addressed by the social accounting matrix:

- What are the economic linkages between sectors in the local economy?
- How do changes in one sector affect other sectors in the local economy?
- How do changes in sectors affect overall economic activity in the local economy?

**Social Accounting Matrix**

**What issues Are Addressed by the Social Accounting Matrix?**

The following questions can be addressed by the social accounting matrix:

- What are the economic linkages between sectors in the local economy?
- How do changes in one sector affect other sectors in the local economy?
- How do changes in sectors affect overall economic activity in the local economy?

**How Is the Social Accounting Matrix Used?**

A social accounting matrix (SAM) is a general equilibrium model of the economy based on the principles of input-output analysis—essentially, it is an extension of the input-output model. The SAM uses a system of accounts framework to track economic flows between the supply side and institu-

**CASE STUDY**

**BOBO-DIOULASSO (Burkina Faso)**

A social accounting matrix (SAM) was extensively used in Bobo-Dioulasso during the city development strategy (CDS) process, which was guided by the OECD and MDP ECOLOC process. The Bobo-Dioulasso SAM is a simplified input-output table, showing the economic interaction among sectors in the area. This approach was particularly well-suited to Bobo-Dioulasso because of the low level of statistical complexity required and because of this tool’s capacity to accommodate information on different socioeconomic aspects stemming from the surveys conducted within the CDS framework.

The SAM was used to uncover accounting transactions and linkages in the city and its surrounding area and was a useful tool in identifying economic activity complexes in Bobo-Dioulasso. However, a drawback of using the SAM was that, even though it was an excellent method for identifying economic interaction, it was less effective at uncovering the more social and structural linkages.
tional accounts. It therefore helps to illustrate how income is derived from production activities and how it is distributed to the various socioeconomic groups in the economy.

A basic SAM model contains three institutions: factors of production, household types, and production sectors. Production sectors (agriculture, manufacturing, and so forth) pay factors of production (labour and capital) for services rendered. The factors pass this money along to different types of households (rural households versus urban households). The households, in turn, pay the production sectors for purchases of food, clothing, and so forth.

One benefit of using a SAM is that it allows for substantial flexibility in defining the data to be analysed. It is possible to adopt a wide range of units of measurement and alternative definitions, while maintaining internal consistency in the model (that is, inputs must equal outputs). For example, it is possible to disaggregate the model at whatever level of detail is desired to explore specific issues such as links between growth, income allocation, and poverty.

What Key Inputs Are Required for SAM?

Analysis using a SAM typically requires detailed statistical information on the local economy, as well as on government and household spending. The data should be available at least at the regional level to allow for effective local-level analysis. (Note: Where statistical data are not available, data can be collected through a detailed survey of all industry sec-

Tips

Exert caution with using estimated data. SAM tables can be estimated using national input-output accounts. This is a less costly way to obtain value-added data than through primary data collection, but the data may also be less accurate. City-regions are often far more dependent on external trade than the national economy, so estimates based on national data may underestimate the dependence on imports.

Be aware of structural inter- and intra-industry changes. If the linkages between sectors, firms, and households change rapidly, the role of SAM analysis in forecasting quickly becomes redundant. In cases where the local economy is believed to be undergoing significant structural change, it may be best to consider collecting additional information about these changes through surveys to account for them in a forecasting exercise.

Further Information


For a detailed discussion on the construction of SAM in South Africa and comparisons with 11 other countries, see the Statistics South Africa discussion paper at: http://www.statssa.gov.za/Publications/DiscussSAM/DiscussSAM.pdf.

tors in the local economy. However, this can be time and resource intensive. There are also a variety of statistical approaches to model local-level data.)

SAM analysis is complex and requires significant capacity in econometric analysis.

Cluster Mapping

What Issues Are Addressed by Cluster Mapping?

The following questions can be addressed by cluster mapping:

- What are the main clusters of economic activity in the local economy?
- What are the nature and strength of links between the firms and supporting institutions in a cluster?
- To what extent are the firms and institutions in a cluster geographically concentrated?

How Is Cluster Mapping Used?

Cluster mapping (also referred to as cluster analysis) identifies groups of tightly linked firms in related industries in a local economy. Popularised by management theorist Michael Porter, it has become one of the most popular tools in regional planning since the 1990s. A cluster generally refers to a group of firms and supporting institutions, such as universities and research centres, that operate in related sectors, are interlinked through trade and knowledge exchange, and operate in proximity to each other.

Identifying clusters in a local economy generally involves two types of analysis: 1) assessing the degree of geographical

CASE STUDY

MEDELLÍN (Colombia)

As part of a wider analysis of seven priority clusters in Medellín, the city’s Chamber of Commerce carried out a cluster mapping exercise. The results of this exercise form an important input into the strategic development plan for Medellín to be finalised in 2007. The seven clusters identified through the cluster mapping exercise were named as priority industries in the final strategy.

The aim of the cluster mapping exercise was to identify clusters with the greatest actual and/or potential contribution to economic growth in the city. The city first identified seven industries (based on data on regional value added, exports, output, and employment) that fulfilled the above criteria. This analysis was carried out at a disaggregated data level, using the International Standard Industrial Classification (ISIC) of all economic activities.

Then all sectors and research institutions related to each of these seven sectors were identified based on: 1) a review of existing secondary sources, 2) statistical analysis, and 3) a series of workshops with industry experts and representatives from the largest firms in the seven sectors. Once the clusters had been identified, their competitiveness was assessed using Porter’s Diamond method (see the competitive advantage framework in chapter 9 of this Resource Guide for further information on this approach).
concentration of the group or sectors of firms; and 2) assessing the strength and nature of interfirm linkages. There is no standardised methodology for this analysis, but it most often involves both quantitative and qualitative techniques. The degree of geographical concentration is typically calculated using location quotients or other indices of specialisation. A complement or alternative is to plot the location of firms and supporting institutions in geographical space using GIS mapping.

The linkages between firms can be quantified using input-output tables—displaying the value of input and output (goods and services sold) by supplier and buyer, respectively. Additionally, linkages can be assessed through a more qualitative and participatory mapping exercise of the relationships among key firms and related institutions in the cluster based on input from workshops, focus groups, or interviews.

What Key Inputs Are Required for Cluster Mapping?

A highly quantitative cluster mapping exercise is data intensive and may involve data that are not readily available at city level. Overall, a cluster mapping analysis requires:

- Qualitative or quantitative information on the firms operating in the local economy, such as the interfirm flow of goods and know-how, employment by firm and/or activity; and
- Data on output and employment for firms in the local and reference (most national or regional) economy, if calculating clusters based on location quotient.

This analysis is moderately complex and requires capacity in econometric analysis as well as an understanding of

Tips

*Interpret the results of quantitative analysis with caution. A high location quotient for an industry sector does not necessarily indicate the existence of a cluster. Cities are likely to have high concentrations of some activities (services, for example) whether or not there is any actual clustering. Similarly, a low location quotient does not necessarily preclude the existence of a cluster in the region. And although a GIS analysis may suggest the possible existence of clusters, it is important to explore other possible explanations. Clusters are defined not just by a physical concentration of firms, but also by their activities and interrelationships.*

*Complement quantitative data with qualitative insights. Quantitative tools such as input-output analysis can help to determine the degree of trade linkages between sectors in a city or region, but a cluster mapping exercise that focuses exclusively on quantitative tools may omit important qualitative aspects of a cluster. For example, input-output analysis does not account for the role of supporting institutions (such as higher education institutions) or the potential importance of nontrade linkages between firms (knowledge sharing, for example).*

Further Information

*For a useful introduction to methods and concepts relevant for cluster analysis and mapping, see: *Industrial and Regional Clusters: Concepts and Comparative Applications*, by E. M. Bergman and E. J. Feser, at: [http://www.tri.wvu.edu/WebBook/Bergman-Feser/contents.htm](http://www.tri.wvu.edu/WebBook/Bergman-Feser/contents.htm).*

*For information on the UNIDO cluster development programme that focuses on developing countries, see: [http://www.unido.org/doc/4297](http://www.unido.org/doc/4297).*

*For examples of cluster processes in developing countries, see: the Global Cluster Initiative Survey (GCIS) on cluster initiatives in Developing and Transition Economies, at: [http://www.cluster-research.org/devtra.htm](http://www.cluster-research.org/devtra.htm).*

Cluster mapping is not typically addressed in regional science and/or local economic development textbooks. R. J. Stimson, R. R. Stough, and B. H. Roberts dedicated a chapter to the various methods used in cluster mapping in *Regional Economic Development: Analysis and Planning Strategy*. 
cluster theory and theories of competitive advantage. If the cluster analysis includes spatial mapping, GIS data and technology are required. Cluster mapping has a moderate to high resource intensity.

**Value Chain Analysis**

**What Issues Are Addressed by Value Chain Analysis?**

The following questions can be addressed by a value chain analysis:

- How are the different activities involved in production and distribution structured in the local economy (overall and within specific sectors)?
- How and to what extent are the firms in the value chain interlinked in terms of flows of goods and services?
- Where in the value chain do the firms in the local economy sit?
- In what kind of activities are the firms in the local economy involved?
- What areas need improving to make local firms more competitive (product quality, innovation, reliability of supply and logistics, and so forth)?
- What are the obstacles for local firms in moving up the value chain?

**How Is Value Chain Analysis Used?**

A value chain describes a series of stages that create and build value in products and services. Value chain analysis, developed by management theorist Michael Porter, has most commonly been used in the private sector as a tool to build competitive advantage by identifying opportunities to build process efficiencies (by cutting costs, for example) or finding sources of differentiation. The process is now increasingly used as a tool in the context of local economy assessments, particularly in terms of working with key sectors in the local economy to help firms understand their current position in global value chains and identify obstacles and opportunities for upgrading to more lucrative parts of the chain.

Value chain analysis slices up the production chain into the different activities (logistics, sales, marketing, production, research and development) and looks at the spread of firms in the different activities, the relationships between them, and the extent to which the firms in the different activities control the value chain. Figure 8.3 shows a basic value chain within a regional development model.

**CASE STUDY**

**DURBAN (South Africa)**

The city of Durban puts substantial emphasis on identifying and supporting key sectors as part of the local economic development strategy. Durban makes regular use of value chain mapping in order to assess the dynamic interaction between local firms and between groups of local firms and national and global value chains.

Specifically, Durban has found value chain assessment useful for two elements of the assessment. First, it helps them to understand the degree to which local firms are operating in lower value and marginal activities or are moving into high value and more complex activities. Second, it allows them to understand the active, or in some cases missing, linkages among local firms. Because the value chain tool requires substantial depth of data gathering and analysis, it is most often used to analyse a specific set of target sectors rather than for the economy overall. Typically, the analysis involves both quantitative and qualitative analysis and has been used successfully as part of participatory assessment techniques with the private sector.

Durban first used value chain analysis as part of a major economic strategy. The study, *Durban at the Crossroads*, mapped out Durban’s priority clusters and conducted value chain analysis of the most important of these. It helped to identify the strengths and weaknesses of Durban’s clusters and to establish the interventions required to ensure sustainable competitiveness for the city’s industries.
There is no standardised methodology for conducting a value chain analysis. Instead, it often uses a range of quantitative and qualitative tools. Input-output analysis can be used to diagram and quantify the relationships between firms in an industry value chain. A more qualitative and participatory mapping exercise of the relationships among firms in each value chain, as well as the degree of power of the firms (in different activities represented in the chain), can be used in addition to (or instead of) input-output analysis.

The value chain analysis is also often integrated into cluster mapping exercises. (For more information on cluster mapping, see page 99.)

**Tips**

*Use local resources and industry experts.* Value chain analysis will in many cases involve participation from the private sector. Local business groups, in particular, may possess considerable qualitative and quantitative data on the value chain in question and knowledge and expertise on the topic. They may have suggestions and contact details for firm representatives and experts to include in a participatory exercise.

*Understand enabling factors.* Although understanding linkages among firms in the value chain is the main focus, it is also critical to identify how firm and sector performance is supported (or hindered) by the wider enabling environment. This includes factors such as customs and transport policies and business support services, which must be aligned to improve sector performance.

*Make sure the analysis is appropriate for the purpose.* Although the value chain tool is useful, it is important to recognise that value chains differ significantly from one industry to the next. As a result, value chain analysis is unlikely to be a relevant tool for analysing the local economy in its entirety, but rather only for analysing individual sectors of the economy.

There is no standardised methodology for conducting a value chain analysis. Instead, it often uses a range of quantitative and qualitative tools. Input-output analysis can be used to diagram and quantify the relationships between firms in an industry value chain. A more qualitative and participatory mapping exercise of the relationships among firms in each value chain, as well as the degree of power of the firms (in different activities represented in the chain), can be used in addition to (or instead of) input-output analysis.

The value chain analysis is also often integrated into cluster mapping exercises. (For more information on cluster mapping, see page 99.)

**What Key Inputs Are Required for Value Chain Analysis?**

The qualitative data required for value chain analysis are typically readily available; in most cases capturing this information requires facilitating a participatory process with the industry sector in question. However, rigorous quantitative analysis is data intensive and data may not be readily available at city level. Overall, value chain analysis requires:

- Qualitative or quantitative information on the firms in the value chain and the linkages between them, for exam-
ple, flow of goods and services, employment by firm and/or activity, regional imports and exports by sector, added value by activity.

- An understanding of value chains theories and the role of value chains in defining regional and firm competitiveness.

This analysis is moderately complex and requires capacity in econometric analysis if it is based on quantitative analysis. In any case, it will require some understanding of theories of competitive advantage, of basic business strategy, and of the specific industries in question.

This analysis does not require any particular resources other than data and human resources. If data at the local level are available and additional data collection is not required, the analysis has a moderate resource intensity.

**Asset Mapping**

What Issues Are Addressed by Asset Mapping?

The following questions can be addressed by asset mapping:

- What are the assets that might make the city more competitive?
- What are critical tangible assets?
- What are critical intangible assets?

**CASE STUDY**

**ADEN (Yemen)**

Asset mapping was an important analytical tool in the city development strategy process in Aden. In 2002, Aden’s city strategy process was built around taking advantage of what were seen as the city’s key infrastructure assets. The CORE, as they were defined in Aden’s CDS process, included: The Port of Aden, The Aden Free Zone, and Aden International Airport. One component of the local economy assessment in this city involved undertaking a specific competitiveness assessment of the CORE, with regards to competing transport hub locations in the wider urban region.

More broadly, Aden undertook a basic asset mapping exercise within the competitiveness assessment stage. As part of the Economic and Business Opinion Survey that was undertaken in the city during 2002, respondents were asked to name what they viewed as the city’s three most important assets (tangible or intangible). These assets were then further discussed and prioritised at a subsequent competitiveness seminar.
How Is Asset Mapping Used?

Asset mapping is a relatively quick and simple tool for understanding local assets and how they can facilitate local economic competitiveness. The tool is used to document the main tangible assets (physical infrastructure and buildings such as transport, property, utilities, cultural amenities, and so forth) and intangible assets (knowledge, trust, cooperation, and so forth) available to the local economy. In the economic development context, it is most often applied at the community or small-city level.

Asset mapping is often conducted by using a participatory approach in which local stakeholders help identify, rank, and prioritise the different local assets. In some cases, it also involves assessing factors that may threaten and/or strengthen these assets and developing strategies to support and enhance them. The type and number of participants will depend on the purpose of the exercise. If the tool is used as an exclusively analytical exercise, it may be best to choose participants based on their expertise. However, if the aim of the asset mapping exercise is also to sensitise stakeholders to local economic development and strategic planning, then it may be best to include a broader stakeholder group.

Asset mapping can also be conducted through a more formal survey (a household survey or investment climate survey), but typically, a survey would only supplement a more participatory process. A main strength of asset mapping is that it generally supports a positive outlook as it focuses on opportunities rather than problems (which is often a drawback with participatory issues identification and other participatory approaches). Therefore, it can be a more unifying and motivating tool for engaging stakeholders.

What Key Inputs Are Required for Asset Mapping?

The data required for this analysis are readily available from participants in the local economy. Asset mapping is a relatively
easy tool to use and does not require any specific econometric or analytical expertise. Using the tool effectively does require an experienced and appropriately trained facilitator, if using a participatory approach. Other than access to facilities to host a participatory session, the tool does not require any other specific resources. Overall, the tool has a low resource intensity.

Skills Audit

What Issues Are Addressed by a Skills Audit?

The following questions can be addressed by a skills audit:

- What impact does this have on local firms?
- What impact does this have on the local economy?
- Is this a barrier to employment growth?
- What are future skill requirements? What are future trends in workforce skills?
- Is the city’s skills base competitive? Does its skills base match the strategic vision for the city?

How Is a Skills Audit Used?

A skills audit is used to document the skills base and mapping against the identified needs of the local economy. This tool is typically used to: 1) determine current and/or future skill requirements of the local economy (overall or for specific industry sectors), and 2) determine the skill base needed to fulfil the city’s strategic vision.

There are several possible ways to conduct a skills audit, including participatory assessments and more quantitative approaches that differ in methodology and the degree of expertise required. A first step is often to review the local economic structure and identify any immediate changes to local employment (such as a planned opening or closing by a major local employer). This is of interest because the sectoral composition can indicate what skills are needed. For example, rapid expansion in the construction sector could indicate a need for more engineers and manual labourers, whereas growth in business services could indicate a need for more lawyers and accountants.

A quantitative skills audit could simply involve using a firm survey to collect data on the perceptions of firms’ man-
agement (on the current and future skills demand) and to compare these data with the actual skill and education level of both the economically active population and students entering higher education. However, it could also involve constructing and analysing a matrix in which the number of filled posts and vacancies in terms of sector (usually standard industrial code [SIC] or harmonised system [HS] code classification) and occupation (generally according to a national standard occupational classification system). This is then typically complemented with an analysis of the supply of skills (for example, the level of education of the economically active population).

To plan for future skills shortages, forecasting or scenario planning methods are often used along with a skills audit to identify future skills needs (see scenario planning in chapter 9 of this Resource Guide for more information on these tools).

Note: If the aim of the analysis is to map skills needs in relation to reaching a strategic vision, this may entail comparison with a reference economy (by using benchmarking analysis). For example, if a city wants to establish itself as a location for research and development firms in information technology, it can be useful to benchmark the city’s skill base against a city that has already established itself as a location for research and development firms.

Tips

Use local resources. To avoid duplication, possibly reduce costs, and take advantage of existing expertise, it is wise to make use of local business networks and educational institutions. These groups sometimes have substantial internal analytical capacity and data, so they may be able to help in the dissemination of results and provide information on future economic events that affect the availability of skills (such as the opening or closure of a local factory).

Assess both supply and demand. A skills audit of the local economy requires a strong understanding of the supply side (existing skills in the local economy and those being developed for the future) and the demand side (how employers evaluate the local economy’s skills base and what skills they need for the future). It is important that the local economy analysis balances the two.

Mix data and participatory inputs. Understanding the existing skills base and strengths and weaknesses of a local economy requires objective data and qualitative inputs from local stakeholders. A lack of data increases the risk of making assessments based on perception only; a lack of qualitative input from local stakeholders increases the risk of not understanding the nature and scope of issues relevant to effective strategic planning.
A qualitative approach will generally take the form of a participatory workshop (see participatory issues identification in chapter 7 for more information). In these cases, stakeholders, typically from the private sector and educational institutions but often including community organisations and skills experts, identify skills requirements and compare them with existing skills.

What Key Inputs Are Required for a Skills Audit?

The data requirements for a skills audit largely depend on whether a participatory or quantitative analysis approach is used. A minimum data requirement typically includes educational attainment levels of the population, number of students by career, and some type of data on the demand for skills by industry (qualitative or quantitative). For a more complex analysis, time series data on the above data on the sectoral composition of the economy, and data on the vacancies and jobs filled by occupation and sector, are needed.

Data on future and current skill demand can be collected using an industrial structure survey or a business outlook survey. Similarly, the requirements for analytical capacity will vary. The most basic analysis is relatively simple, whereas the more complex analyses involving forecasting and scenario planning require substantially more analytical capacity and econometric skills. A trained facilitator is required for the participatory approach to conducting a skills audit.

Stakeholder Analysis / Institutional Mapping

What Issues Are Addressed by a Stakeholder Analysis?

The following questions can be addressed by a stakeholder analysis:

- Who are the key stakeholders in the local economy?
- What are the specific interests and roles of these stakeholders?
- What is their influence on (and interests in) the strategic planning process?
- Who are the most important stakeholders to involve in the local economy assessment and/or strategy development process?

How Is Stakeholder Analysis Used?

In stakeholder analysis, also called institutional mapping, important stakeholders are identified, and the relationships among stakeholders (along with their interests and influences in the local economy) are analysed. A stakeholder analysis can be conducted before the stakeholder consultations begin as part of a local economy assessment or strategy development process. The analysis can also be a valuable way to identify potential roadblocks and/or catalysts for moving forward on a chosen strategy. Stakeholder analysis is thus often the starting point for most participatory work.
The first step in stakeholder analysis is to compile a list of stakeholders. These can be individuals or wider groups and institutions, but for stakeholder groups, three broad types are relevant: the public sector (city or municipal departments, regional or national government departments, universities, and so forth), the private sector (such as chamber of commerce, chamber of handicrafts, banks, cooperatives, and research institutions), and nonprofit organisations (including minority associations, NGOs, trade unions, and women’s associations). Once the stakeholders have been identified, relationships between organisations and institutions are mapped out to understand roles, relations, and gaps in existing linkages among them.

Stakeholder analysis is a versatile tool that can be used at different levels of formality. Although the analysis is often conducted as a facilitated group process, it may also involve administering a questionnaire to stakeholder organisations (business groups and neighbourhood organisations, for example) with questions concerning mission, geographical area of intervention, main types of activities, and other relevant details.

Tips

Use local resources for first cut at main groups. Although external consultants may be needed in some aspects of the local economy assessment, they are of little value in helping to identify and map local stakeholders. Local representative organisations can be useful because they are likely to have knowledge of and ties to the local economy.

Cast a wide net. A broad range of stakeholders and institutions will likely play important roles in various aspects of the local economy and will have important inputs to the assessment and strategy development process. Therefore, it is important to look beyond the most obvious stakeholders.

Make use of visual tools. Links between institutions are most easily identified through visual processes, such as drawing maps or diagrams that use symbols and physical distance to represent the nature and scope of relationships.

Make the process iterative. As more information and new informants emerge, the picture of institutions and their relationships will change. This process must be allowed to evolve.

CASE STUDY

KARU (Nigeria)

The city of Karu used a stakeholder analysis to identify and select the participants for a series of stakeholder consultation meetings organised as part of the CDS process in 2002. The approach to the analysis was developed by UN-HABITAT.

The stakeholder analysis was conducted by a Consultation Organising Committee (COC) made up of representatives from community leaders, local government, and representatives of both the physical planning authorities and the private sector. Because the COC was comprised of people with in-depth knowledge of the town and its inhabitants, the committee was perceived to be in a good position to identify stakeholders.

One of the main goals of the CDS process in Karu was to develop viable approaches to financing, operating, and maintaining public service delivery and infrastructure. The COC started by compiling a full list of those with a stake in, information about, and responsibility for providing urban services. These stakeholders were then assigned to three categories: private sector (informal and formal), public sector (local, state, and federal government), and the popular sector (civil society organisations, traditional leaders). The stakeholder analysis that resulted was conducted separately for each of the three categories, using a matrix of stakeholder responsibility (low-high) and stake (low-high). The analysis of public sector stakeholders focused on the statutory responsibility of each (for functions related to providing public services), whereas the analysis for the private sector and civil society focused more on the interests and resources needed in providing urban services.

The stakeholder analysis was perceived as useful to the city because it provided a good overview of the stakeholders’ roles (by identifying the responsibilities of local versus state and federal, for example). The stakeholder analysis also revealed that private companies and individuals were investing in and providing key urban services (including water) through investments in boreholes and storage facilities.
Vant issues. This may be particularly relevant for larger economies where there are many stakeholder organisations.

A common approach to pulling together the results of the stakeholder analysis is to draw a matrix of stakeholder influence (low-high) and interest (low-high stake). Based on this, it is possible to develop a strategy for involving each target person or group.

**What Key Inputs Are Required for Stakeholder Analysis?**

When a good overview of the local economy is available, and stakeholders are included in data collection, data for stakeholder analysis can be obtained. For this analysis, cities need:

- A list of main stakeholder groups.
- Names and contact details for stakeholders to be included in the analysis.

Stakeholder analysis is a relatively easy tool to use, but it requires an experienced and trained facilitator who has good people skills and is sensitive to local cultural norms.

This analysis does not require any resources other than data and human resources. But even though stakeholder analysis generally has a low resource intensity, it may be moderate to high if a survey requiring more formal analysis is used (such as a survey questionnaire that involves a large territory or population sample).

**What Other Analytical Tools Are There?**

The most widely used tools for local economy analysis have been described in this chapter. However, other tools can be useful as well. Some of these are briefly described in table 8.5.
<table>
<thead>
<tr>
<th>Analytical tools</th>
<th>Description</th>
<th>Further Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locational Gini Index</td>
<td>Uses the standard Gini coefficient to measure the spatial dispersion of industry, by replacing individuals with regions. Can be calculated for territories and/or sectors.</td>
<td>For an example of how the locational Gini is used to measure industry concentration in the European Union, see: <a href="http://www.hec.unil.ch/mbrulhar/papers/tep955.pdf">http://www.hec.unil.ch/mbrulhar/papers/tep955.pdf</a>.</td>
</tr>
<tr>
<td></td>
<td>This index has become a standard measure but is not effective for cross-regional comparisons.</td>
<td>For an example of how the locational Gini is used to measure industry concentration in China, see: <a href="http://rspas.anu.edu.au/economics/publish/papers/wp2001/2001-07%20MeiWenWP2v.pdf">http://rspas.anu.edu.au/economics/publish/papers/wp2001/2001-07%20MeiWenWP2v.pdf</a>.</td>
</tr>
<tr>
<td>Entropy indexes</td>
<td>Measure the spatial dispersion of industry, as an alternative to the locational Gini index.</td>
<td>For an example of how entropy indexes are used in a cluster mapping exercise in Ireland, see: <a href="http://www.tcd.ie/iiis/documents/discussion/pdfs/iiisdep89.pdf">http://www.tcd.ie/iiis/documents/discussion/pdfs/iiisdep89.pdf</a>.</td>
</tr>
<tr>
<td></td>
<td>Allow for weighting within subgroups and thus have the potential to decompose data by subgroups (for example, to explain the contribution of specific sectors to the overall geographic concentration).</td>
<td>For discussion on use of the Theil Index to measure inequality, see: The Young Person’s Guide to the Theil Index: Suggesting Intuitive Interpretations and Exploring Analytical Applications at: <a href="http://papers.ssrn.com/sol3/papers.cfm/abstract_id=228793">http://papers.ssrn.com/sol3/papers.cfm/abstract_id=228793</a>.</td>
</tr>
<tr>
<td></td>
<td>Can be a valuable tool for understanding human capital potential and the issues currently restricting economic participation, particularly among women.</td>
<td>For a range of approaches to gender analysis, see: <a href="http://www.iilo.org/public/english/region/asro/mdtmanila/training/unit1/plngaps1.htm">http://www.iilo.org/public/english/region/asro/mdtmanila/training/unit1/plngaps1.htm</a>.</td>
</tr>
<tr>
<td></td>
<td>Can also be valuable for understanding the informal economy.</td>
<td>For an example of how gender analysis is applied in the U.S. state of West Virginia, see: <a href="http://www.polsci.wvu.edu/ftp/par/report_13_2.html">http://www.polsci.wvu.edu/ftp/par/report_13_2.html</a>.</td>
</tr>
<tr>
<td>Systems thinking</td>
<td>An approach for analysing and managing complex feedback systems.</td>
<td>For an introduction to various systems thinking methodologies, see the Arizona State University Business College paper at: <a href="http://www.public.asu.edu/~kirkwood/sysdyn/SDIntro/SDIntro.htm">http://www.public.asu.edu/~kirkwood/sysdyn/SDIntro/SDIntro.htm</a>.</td>
</tr>
<tr>
<td></td>
<td>Most appropriate for analysing interrelationships between different issues in the economy and anticipating development outcomes by mapping possible chains of causes and effects; fairly complex technique that requires both good understanding of economic issues and facilitation skills, and is ideally aided by developing a computer simulation model in which causes and effects can be tested.</td>
<td>For a comprehensive guide to systems thinking, see the Road Maps series developed by Massachusetts Institute of Technology’s Sloan School of Management at: <a href="http://sysdyn.clexchange.org/road-maps/rm-toc.html">http://sysdyn.clexchange.org/road-maps/rm-toc.html</a>.</td>
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<td></td>
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<td>The Systems Dynamics Society Web site provides many resources and publications (for subscribers only): <a href="http://www.systemdynamics.org">http://www.systemdynamics.org</a>.</td>
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<td>For a mini-simulation exercise and a brief introduction to dynamics modelling at London Business School Systems Dynamics Group, see: <a href="http://www.london.edu/sysdn.html">http://www.london.edu/sysdn.html</a>.</td>
</tr>
</tbody>
</table>
In chapter 9, the focus is on four strategic frameworks widely used by LED practitioners and the 15 reference cities discussed in this guide. These are:
- SWOT analysis
- Problem analysis
- Competitive advantage analysis
- Scenario planning

These four frameworks are introduced in the following sections, with guidance on the analytical questions each framework helps cities address, along with practical information on how each framework can be used, the key inputs required, tips and best practice, and information on useful sources of additional information.

A brief overview of other useful frameworks is presented in table 9.1. Although developed for use in various strategic planning contexts, including regional economic development and industry and firm-level strategies, these frameworks are less widely used than SWOT analysis, problem analysis, competitive advantage analysis, and scenario planning.

**SWOT Analysis**

**What Issues Are Addressed by SWOT Analysis?**

The following questions can be addressed by a SWOT analysis:
- What are the overall strengths, weaknesses, opportunities, and threats faced by the city?
- What are the strengths, weaknesses, opportunities, and threats faced by the city regarding a particular issue (such as employment) or in a particular area of economic development (such as economic structure)?

**How Is the SWOT Analysis Framework Used?**

The SWOT is the most popular strategic framework used to assess the local economy. It requires limited quantitative/statistical data input, is relatively easy to understand and deploy, and lends itself well to participatory approaches.
SWOT analysis involves analysing both internal and external factors that affect the city, and identifies unique features of the city that set it apart from other cities and could serve as a major selling point. The SWOT approach involves organising key data and information about the city across four categories: strengths, weaknesses, opportunities, and threats, as shown in figure 9.1.

Although SWOT is sometimes used for individual-level LED indicators (sectoral structure and specialisation, for

### Tips

**Carefully analyse each factor** To maximise the value of a SWOT exercise, it is important to consider what each of the factors means and determine which are most likely to have the greatest impact on the local economy.

**Place the city in a dynamic context.** The SWOT framework can be supported with other tools (such as PEST analysis). This helps city administrators to consider the factors that might erode or support identified strengths and opportunities in the future.

**Place the city in a comparative context.** Think about the strengths and weaknesses of the city when compared with other cities in the region, or similar cities that might compete to attract investment. Identify opportunities that exist to develop differentiated strategies based on the city’s unique strengths.

**Involve a range of stakeholders.** The SWOT framework is most useful when part of a participatory process where synergies among stakeholders and opportunities can be maximized.
It is most commonly used to summarise the position of the local economy overall. In particular, SWOT frameworks are commonly used to facilitate participatory workshops aimed at agreeing on the status quo of the local economy. SWOT is a concept that can be understood by most stakeholders, therefore, it is a useful framework to build consensus in the strategy development process. A SWOT analysis is often a valuable input into identifying and prioritising strategic priorities, local economy development initiatives, and projects.

**What Key Inputs Are Required for SWOT Analysis?**

An effective SWOT analysis can be completed with limited quantitative/statistical data input. But when these data are not available, practitioners rely on qualitative input. This input is sometimes obtained by assembling a panel of experts with specific knowledge of different sectors and aspects of the economy. Alternatively, a SWOT analysis can be undertaken in a larger participatory forum where individual input is requested. It is recommended that such an event be limited to about 60 people to enable all to participate. In these cases, the SWOT analysis requires a trained facilitator.

Ideally, SWOT analysis includes comparative data from other cities in the country or comparable international examples).
benchmarks. This can help confirm the accuracy of identified strengths and weaknesses. Overall, SWOT analysis requires low resource intensity.

**Problem Analysis**

**What Issues Are Addressed by Problem Analysis?**

The following questions can be addressed by a problem analysis:

- What are the main issues facing the local economy?
- How are these issues related to each other and to the external environment?
- Which issues are of higher or lower priority?

**How Is the Problem Analysis Framework Used?**

Problem analysis is a framework used to identify core issues to be addressed in the strategic planning process. Problem in this context does not necessarily indicate weaknesses or concerns but can equally refer to opportunities and challenges—essentially it is about identifying issues that should be addressed in the city strategy. Problem analysis is most commonly used to analyse qualitative information about the local economy that has been collected through participatory processes (see participatory issues analysis on page 71). The various frameworks for problem analysis include problem trees, objective trees, and various forms of needs analysis.

The framework usually involves four basic steps:

1. Identify a long list of problems and issues (in most cases, unsatisfactory situations are described, and a set of symptoms emerge).
2. Identify one or more core problems that are at the root of the others (the idea is to attack the core problems rather than the symptoms).
3. Determine which problems are causes and which are effects.
4. Arrange the issues in a hierarchy of causes and effects.

A problem tree is often developed from this information, which enables practitioners to visually illustrate symptoms, core problems, and interrelationships. An example is shown in figure 9.2.

**What Key Inputs Are Required for Problem Analysis?**

A problem analysis does not require any detailed, sophisticated assessment of quantitative data. Instead, this framework draws on qualitative information and perceptions from stakeholders. The main requirements for using this framework are:

- A trained and experienced facilitator to lead the process.

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**CASE STUDY**

**Problem Analysis—SAN FERNANDO (Philippines)**

In 2001, San Fernando used the problem tree as one of two main strategic frameworks (along with SWOT analysis) to assess its local economy and develop a CDS. The problem tree framework was an analytical output of a series of workshops that used participatory issues identification tools to capture perceived issues facing the local economy.

After all relevant issues were identified, the problem tree framework was used in participatory workshops in an effort to trace problems back to a set of core issues and to map causes and effects.

Overall, the city found problem tree analysis somewhat difficult to use compared to SWOT analysis. Stakeholders were generally able to identify problems effectively, but separating symptoms from the core problems was more difficult. Similarly, mapping the relationships between problems often required substantial resources and effective facilitation. However, the framework was found to be highly valuable in showing linkages between key issues and in defining the city’s strategic priorities.
Participants with a good knowledge of the local economy.
Facilities to host participatory processes such as seminars and workshops.

Problem analysis does not require econometric expertise or in-depth experience using similar frameworks. Therefore, the overall resource requirements of this tool are relatively low.

### Competitive Advantage Analysis

**What Issues Are Addressed by Competitive Advantage Analysis?**

The following questions can be addressed by competitive advantage analysis:

- How competitive is the local economy?
- How well is the local economy performing relative to a competing economy (based on employment, exports, government efficiency, GDP, innovation, and productivity)?
Competitive Advantage Analysis

ADEN (Yemen)

The Aden Competitiveness Assessment, one of the foundation studies for the Aden CDS, framed competitiveness around the Porter’s Diamond framework. The primary data input to the analysis came from the results of the city’s competitiveness survey, which was designed around the four main components of the Diamond framework, as were the discussions held in the later competitiveness seminar. Aden officials found this framework easy to use because it did not require complex analytical methods. The process was also easily understood by a range of stakeholders, so it was easily adapted in participatory exercises.

DURBAN (South Africa)

The city of Durban regularly used both the Porter’s Diamond framework and the related Five Forces as strategic frameworks in assessing competitiveness in Durban, especially in analysing specific sectors and clusters in the city. Durban has found these frameworks to be valuable in engaging the private sector on competitiveness issues, because they provide an accessible yet rigorous approach that is more in line with private sector thinking than some of the more static frameworks, such as SWOT analysis.

Tips

Mix data and participatory inputs. Understanding competitiveness requires objective data and qualitative inputs from local stakeholders. When data are not available, cities risk making assessments based on perceptions only. And without qualitative input from local stakeholders, they risk not understanding the specific issues (often intangible) that can influence competitiveness—and will not be prepared to make effective strategic implications. When identifying competitive strengths or weaknesses of the local economy through a participative process, look for objective evidence (data and information) to support it.

Assess future trends. A status quo assessment of competitiveness is useful but lacks predictive power. Remember that a city’s sources of competitive advantage today will not necessarily remain competitive in the future. Therefore, it is important to ensure that the local-level analysis focuses on external trends (general and sector specific) that drive competitiveness. It is also important to identify the fundamental sources of competitiveness that will enable the city to become and remain dynamic by changing to meet future demands.

Assess against the existing vision. The competitive advantage framework can provide a powerful assessment of the city’s sources of competitive advantage and disadvantage. Therefore, it is important to look at these sources of advantage in reference to the city’s existing vision and strategic direction. Does the vision still fit local strengths? Does the city’s direction need to change in order to reflect its core sources of competitive advantage?
Further Information


For numerous documents on competitive advantage, see: http://www.isc.hbs.edu/index.html.


For an example of the Porter’s Diamond framework applied to the LED strategy for a small island in the Philippines, as part of a GTZ-funded development programme, see: http://www.weitzenegger.de/sirmap/3.html.

- How well are firms in the local economy performing with regard to the firms in a competing economy (based on employment, exports, innovation, and productivity)?
- How does the business environment of the local economy perform relative to that of a competing economy (based on financial infrastructure, location, nature of local market, physical infrastructure, and size)?

**How Is the Competitive Advantage Analysis Framework Used?**

Competitive advantage is an umbrella term for a range of frameworks that assess a local economy based on its potential to create sources of advantage (low cost, high innovation, or differentiation) for area firms. The most popular competitive advantage analysis frameworks are those developed by management theorist Michael Porter, especially his diamond framework of national competitiveness and the related five forces of firm rivalry, bargaining power of suppliers and customers, threat of new entrants, and substitute products. The diamond framework examines four factors that determine the competitiveness of a city and can be influenced by government:

1. **Factor conditions**: the availability of inputs such as skilled labour, infrastructure, and capital.
2. **Demand conditions**: the level and sophistication of local demand.
3. **Business/sector structure, strategy, and rivalry**: the degree of competition.
4. **Related and supporting industries**: the availability and degree of linkages between core and supporting activities.

There is no standardised methodology for analysis conducted using the diamond framework, but the process typically involves combining descriptive statistics and qualitative assessment for each of the components shown in figure 9.3. Many cities follow more generic, informal, competitive advantage models that consider elements of the diamond framework and other factors.

The diamond framework and other competitive advantage models can be useful in structuring a participatory workshop to get a snapshot of the local economy. Using this approach, the participants comment on strengths and weaknesses of the local economy and provide other observations.

**Figure 9.3** Porter’s Diamond Framework for Competitive Advantage
on each of the defined factors of competitiveness. A benefit of this approach is that it encourages local actors to see their current situation and economic potential in a different way; considering economic development possibilities from a demand side can be especially helpful for both local organisations and surveyors.

The competitive advantage analysis framework tends to make extensive use of benchmarking analysis, as competitiveness is almost always defined with regard to reference economies. This framework also has close links with cluster strategies and thus makes extensive use of cluster mapping tools.

Note: In addition to assessing the competitiveness of a city’s overall economy, competitive advantage models are also more commonly used to analyse the competitiveness of individual sectors in a local economy.

What Key Inputs Are Required for Competitive Advantage Analysis?

Using the competitive advantage analysis framework effectively requires quantitative and/or qualitative data on the main components of the Porter’s Diamond framework, including employment data, inter-firm linkages, size and nature of the local market, financial infrastructure, and the skill and educational levels of the local labour force. It is also valuable to obtain similar data from at least one of several other cities considered to be the city’s main competitors or peers.

Competitive analysis requires an understanding of competitiveness theory and how it is applied in urban and regional economies. But an understanding of complex econometrics is not required, and there are no requirements for specific software or other analytical resources. When data availability is not a problem, this framework has moderate resource intensity.

Scenario Planning

What Issues Are Addressed by Scenario Planning?

The following questions can be addressed by scenario planning:

- What factors could influence the city’s future economic development, and how?
- What is the desired future for the city? What needs to change to get there?

How Is Scenario Planning Used?

Scenario planning is a strategic planning framework used to predict potential changes and understand the implications of those changes to identify strategies that might be used to adapt to these changes. This approach can be an effective framework for testing the existing assessment of the local economy and for challenging the LED strategy from the standpoint of uncertain future environments.

Scenario planning highlights major forces that may shape the future and provides insight on how these forces may interact; it does not attempt to predict one specific outlook. The sources of changes considered can be relatively predictable (trends in local demographics) or unpredictable (global economic conditions, for example). In scenario planning, a scenario describes a plausible future that can incorporate a range of qualitative and quantitative information. There is no set number of scenarios to be developed, but scenario planning exercises typically develop at least two or three contrasting future scenarios.

Three broad scenario planning frameworks are used, sometimes in combination, in cities:

1. **Qualitative scenario planning.** In this setting, a facilitated group-based process typically involves policymakers, planners, and internal and external experts. The main steps include determining which macroeconomic forces exist and how they might interact to change the external environment. Scenarios are then created and analysed for their implications on the local economy.

2. **Quantitative scenario planning (scenario forecasting).** A technique traditionally used mainly for spatial planning, quantitative scenario plans use economic forecasting techniques to analyse how different macroeconomic scenarios might shape the structure and performance of the local economy. This typically is an analytical exercise, but it is often conducted in combination with qualitative scenario planning.
CASE STUDIES

Scenario Planning

Qualitative Scenario Planning: COPENHAGEN (Denmark)
Since 2003, Wonderful Copenhagen, the tourism organisation of Greater Copenhagen, has used scenario planning as a framework to communicate with policymakers. Two or three scenarios, typically one with no political initiative or investment versus one with great political initiative, are developed each year. These scenarios are then quantified by the tourism organisation’s analysts using a basic model to estimate the impact of tourism on economic growth. For example, in developing the organisation’s tourism strategy for 2007–9, Wonderful Copenhagen developed two scenarios. In one scenario, the sub-national government does nothing to promote tourism, and the short-term growth rates continue at the level of the past decade. However, in the medium-term, the city experiences declining growth due to capacity problems and international competition. In the alternative scenario, the sub-national government invests in facilities, infrastructure, and city marketing, which results in a doubling of the city’s projected long-term growth.

Scenario Forecasting: BRISBANE (Australia)
Brisbane used scenario planning to forecast its 1999 and 2006 strategy development cycles and map out the city’s medium- to long-term growth path. The key economic indicators that were forecasted included population, employment, and output. For example, the 1999 forecasting exercise considered two scenarios: a status quo scenario (which assumed that no new major infrastructure developments occur and no specific strategies are implemented to change the historical growth pattern) and a target scenario (based on an ambitious but achievable goal of increased GRP per capita). The analysis then calculated the investment levels needed to meet this target.

Brisbane officials found this analysis to be highly useful for directing the city’s economic strategy, because it provided substantial insight on the local economy and helped to mobilise decision makers by showing them more clearly the potential impacts of specific strategic and investment decisions.

Futures Framework: GLASGOW (Scotland)
Glasgow first used a futures framework as part of the process of developing a vision and strategic direction for the Clyde-Valley city-region. The process combined foresighted research and intense stakeholder facilitation (with workshops and one-to-one interviews), where four generic city scenarios were developed: Stepping Out; Fusion; Growing Our Own; and Getting Ahead of the Joneses. Current strategies and perceptions of the city’s competitiveness were then tested against these scenarios. The city of Glasgow found the process to be particularly valuable for establishing a realistic vision, and now uses the framework to develop its new economic policy strategy.

3. Futures. The futures approach can be seen as scenario planning in reverse. In these scenarios, futures are first defined, and stakeholders agree to a short list of possible futures for the city. With these futures as the goal, the strategy process then works in reverse (back to the status quo analysis) in order to clarify the strategic path needed to reach the desired future. This framework tends to be both qualitative and participatory.

Cities can also use scenario planning as an ongoing analytical process to monitor specific indicators. Then, as time passes, actual events and developments can be assessed
against the selected scenarios, new scenarios can be developed, and new decisions or policies can be made to address changing conditions.

What Key Inputs Are Required In Scenario Planning?

A scenario planning exercise can range from an informal planning activity based on a qualitative discussion of “what if” scenarios to a highly analytical exercise in which econometric methods and computer simulation programs are used to quantify the outcomes of different scenarios. The following are the minimum needed to conduct a scenario planning exercise:

- A trained and experienced facilitator to lead the process.
- Participants with a good knowledge of the theme for the exercise.

More complex scenario planning exercises are generally advisable only for cities and city-regions with considerable experience. To quantify city scenarios, considerable data and expertise may be required.

Tips

Keep it simple. It is generally advisable to limit the number of scenarios developed for a city. Ideally there should be no more than about four. This makes it easier for the participants to separate the scenarios and makes the framework more potent for political communication.

Choose a dynamic and creative team. Including participants who are creative thinkers in the exercise may lead to surprising scenarios and provide the participating policymakers, experts, and planners with unusual but good ideas not brought to the table by participants with a more traditional point of view.

Combine qualitative and quantitative approaches. As always in economic analysis, it is best to mix objective, quantitative analysis (scenario forecasting) with qualitative and participative approaches that can broaden understanding of the underlying mechanics of how different scenarios might affect the local economy.

Further Information


For an accessible guide to scenario planning, see Foresight Futures Scenarios: Developing and Applying a Participative Strategic Planning Tool, by Frans Berkhout and Julia Hertin (March 2002, Greener Management International); article available for purchase from Greenleaf Publishing at: http://www.greenleaf-publishing.com/page21/Journals/GmiHome.

What Other Strategic Frameworks Are There?

This Resource Guide has focused on the most widely used strategic frameworks. But other frameworks developed for use in strategic planning contexts, including regional economic development, industry and firm-level strategies, can also be useful. Please note that the frameworks listed in table 9.1 have not been used by the 15-city reference group presented in this Guide.

<table>
<thead>
<tr>
<th>Strategic framework</th>
<th>Description</th>
<th>Further Information</th>
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<tbody>
<tr>
<td>Importance-strength analysis (locational comparative advantage)</td>
<td>A derivation of the locational comparative advantage framework that involves a matrix assessment of the relative importance of individual location factors for each sector against the relative competitiveness of the local economy in those factors (Blair, 1995, p. 157). Most useful for analysing the competitiveness of individual sectors; especially to identify and prioritise sectors and understand the competitiveness in target sectors.</td>
<td>For detailed discussion of the framework, see: Local Economic Development: Analysis and Practice, by J. P. Blair (1995, Sage Publications).</td>
</tr>
<tr>
<td>Systemic competitiveness</td>
<td>Examines a range of factors that determine the evolution of economic systems at various territorial levels. It uses four levels of analysis to measure the current state of the local economy and develop a strategic plan (GTZ):</td>
<td>For more information see: Systemic Competitiveness Revisited: Conclusions from Technical Assistance in Private Sector Development at: <a href="http://www.mesopartner.com/englisch/e-publ.html">http://www.mesopartner.com/englisch/e-publ.html</a>. For an explanation of the theory and application of systemic competitiveness, see: Systemic Competitiveness. New Governance Patterns for Industrial Development, by K. Esser, W. Hildebrand, &amp; J. Meyer-Stamer (German Development Institute)</td>
</tr>
<tr>
<td>Multisector quantitative analysis (MSQA)</td>
<td>Framework which combines qualitative (expert opinion surveys) and quantitative techniques to identify opportunities for growth in the local/regional economy. Most relevant for identifying sectoral or cluster opportunities in a local/regional economy; involves expert surveys and then categorical scoring of regional sectors according to a set of performance criteria. Each sector is ranked as strong, average, or weak in each criterion, based in part on input-output tables, expert interviews, and other data sources. Criteria are then weighted to derive overall results.</td>
<td>The analytical framework is explained in full in Regional Economic Development—Analysis and Planning Strategy, by R. J. Stimson, R. R. Stough, &amp; B. H. Roberts (2002, Springer) For a discussion and practical application of MSQA, see: Regional Risk and Economic Development at: <a href="http://hds.canberra.edu.au/cities/research.html">http://hds.canberra.edu.au/cities/research.html</a></td>
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<td>Strategic framework</td>
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<tr>
<td>Balanced business scorecard (Norton and Kaplan)</td>
<td>Business planning and monitoring framework that focuses on ensuring that strategies are balanced around four perspectives: 1) financial performance; 2) customers (service); 3) business processes (efficiency); and 4) learning and growth. Monitors performance across a balanced set of indicators (the specific categories can be redefined to meet the specific needs of LED); Currently used in San Fernando for assessing governance and institutional quality as part of the International Solidarity for Asia’s (ISA) Public Governance Scorecard (PGS) programme.</td>
<td>For an introductory discussion of balanced scorecard, see: <a href="http://www.balancedscorecard.biz/Introduction_BSC.html">http://www.balancedscorecard.biz/Introduction_BSC.html</a> For a step-by-step guide on assessing the suitability of this approach for an organisation and its purpose, see: <a href="http://www.centre-for-egovernment.com/balscore.htm">http://www.centre-for-egovernment.com/balscore.htm</a>. For an accessible set of guidelines, see: <a href="http://www.audit-scotland.gov.uk/index/99ms_01.asp">http://www.audit-scotland.gov.uk/index/99ms_01.asp</a>.</td>
</tr>
<tr>
<td>Core competencies/white spaces (Hamel and Prahalad model)</td>
<td>A framework that involves identifying the core competitive strengths of the region, and identifying “white spaces” (or unexploited areas of potential) for the region. Designed originally for firm-level strategy, but can be adapted for sector or regional strategies; most appropriate for identifying and prioritising sectoral opportunities.</td>
<td>For an accessible step-by-step guide, see:<a href="http://www.ciphersys.com/hofhelp/Hamel%20Prahalt/hamel-prahaladhelpfile.htm">http://www.ciphersys.com/hofhelp/Hamel%20Prahalt/hamel-prahaladhelpfile.htm</a>. For a detailed explanation of the framework, see: <em>Competing for the Future</em> by G. Hamal and D. K. Prahalad (1994, Harvard Business School Press).</td>
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</table>
## TABLE A.1 Overview of LED Toolkits

<table>
<thead>
<tr>
<th>Document</th>
<th>Summary description</th>
<th>Relevance for the local economy assessment</th>
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</table>
| **CDS Manual for China**  
(Chreod, Ltd. on behalf of the Cities Alliance and the World Bank’s East Asia Urban Programme)  
Available at: http://www.citiesalliance.org/cdsdb.nsf/8de03e839e7dbf9d8525683b066a949e/52a8a2fbc8ced45686256e0075c2bf1OpenDocument  
| Manually designed as a practical guide for preparing and conducting the CDS in China, based on the experiences in the initial wave of CDSs in China.  
| Reviews key aspects of the local economy assessment process; includes valuable comments on areas of focus (LED Indicators) and frameworks.  
| Provides a five-module manual (on organising the effort and the local economy assessment; and strategy making, implementation, and review).  
| Provides a trainer’s manual, Power Point slides, exercises, templates, and learning material for each stage.  
| Provides a trainer’s manual, Power Point slides, exercises, templates, and learning material for each stage.  
| Includes learning material and templates on survey and sample design, use of SWOT analysis, business-enabling data and survey, and examples of how these have been conducted in various cities.  
| Provides guideline on preparing and conducting a CDS, by reviewing each of the four CDS process stages (assessment, vision, strategic priorities, and projects).  
| Provides a standard set of LED facts for collection (Urban Karte).  
| Reviews the tools used for data collection and analysis, including other sources of information on using the tools.  
| Provides six- stage guidelines for LED practitioners in post-crisis locations (covers the entire LED process).  
| Provides extensive, relatively non-academic background on LED concepts and framework.  
| Includes checklists for types of information that might be included in LED assessments.  
| Highlights basic tools and areas to be analysed in relation to nine LED action areas.  
| (continued)  

(continued)
**TABLE A.1 Overview of LED Toolkits (continued)**

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<tr>
<th>Document</th>
<th>Summary description</th>
<th>Relevance for the local economy assessment</th>
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</table>
| **Promoting Local Economic Development Through Strategic Planning** (UN-Habitat)  
Provides a step-by-step overview of the assessment process, aided by checklists, case studies, and key issues to consider.  
Contains an LED facts list, stakeholder identification and analysis matrix, business and community sample surveys, and guidelines for using five analytical tools (including SWOT, gender, and value-added analysis). |
| **Managing the Economy Locally in Africa: ECOLOC Handbook—Assessing Local Economies and Their Prospects** (MDP-OECD)  
Available in French at: [http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html](http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html)  
Available in English at: [http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html](http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html) | Provides a manual that can be used to assess the local economy and develop LED revival strategies; designed for and based on the experiences of secondary cities in West Africa. Consists of three stages: study phase, consultation, and local economy revival. | Presents a complex conceptual framework for LED assessment that focuses on the linkages between flows of people and goods between cities and their outlying communities.  
Contains recommendations on a key set of data, on organising the assessment process, and on building the teams responsible for organising, monitoring, and conducting the assessment.  
Provides valuable data suggestions regarding linkages between urban areas and rural outlying communities. |
| **LRED Toolkit** (GTZ)  
CD-ROM can be ordered from: nicole.hoehn@gtz.de | Presents a hexagon model for LED that organises the main concepts and instruments around basic instruments that support the local private sector and strengthen locational factors; reviews innovative instruments, mainly those around policy alignment, and effective coordination.  
Loosely incorporates a wide range of tools under this model, and includes a step-by-step process or list of sequential activities for each tool/framework. | Focuses on the overall LED change process, not just the local economy assessment.  
Provides overviews of linkages to methodologies and tools (including benchmarking, Porter’s Five Forces, cluster, mapping, and value chain analysis). |
| **IDP Guidepack and Toolbox** (DPLG South Africa)  
Includes a toolbox that provides guidelines, information, and templates using various process facilitation, analytical tools, and strategic planning tools. | Provides detailed information on using process facilitation tools (including brainstorming, prioritising, managing participative sessions).  
Provides specific parameters of South Africa’s IDP (planning) process and targets South African users. |
| **LED toolkit** (USAID)  
Available at: [http://www.makingcitieswork.org/www/toolsAndResources/toolkits/led](http://www.makingcitieswork.org/www/toolsAndResources/toolkits/led) | Presents the guide designed for USAID field staff to use in establishing LED initiatives.  
Includes background on LED, information on how to evaluate whether conditions are right for LED, and how to initiate an LED programme; also includes case studies. | Provides useful background information about LED (generally more focused on overall LED programme than economic assessment per se).  
Presents useful guidelines on tools such as SWOT. |
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<th>Document</th>
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<th>Relevance for the local economy assessment</th>
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<tr>
<td><strong>USAID LED Project in the Ukraine Toolkit</strong></td>
<td>Provides an online toolkit developed by USAID for Ukrainian cities.</td>
<td>Provides discussion and high-level case studies.</td>
</tr>
<tr>
<td>Available at: <a href="http://www.led.net.ua/eng/tools/">http://www.led.net.ua/eng/tools/</a></td>
<td>Presents an eight-step strategy development process (designed by the Berman Consulting Group); uses case studies to illustrate most of the steps.</td>
<td>Provides useful guidelines on tools such as SWOT analysis, environmental scans, and business outlook surveys.</td>
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<tr>
<td>index.html</td>
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<tr>
<td><strong>Municipal Role in Private Sector Development</strong></td>
<td>Provides an overview of the Canadian model for local government involvement in LED and private sector development; identifies key areas for action.</td>
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<tr>
<td>(CIDA/FCM)</td>
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<td>Presents the FCM’s International Centre for Municipal Development collection of case studies and practical tools (including its Local Government Participatory Approaches Manual).</td>
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<td>Available at:</td>
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<tr>
<td><strong>Toolkit for Subnational Business Regulations</strong></td>
<td>Provides a practical guide designed to aid local authorities who wish to streamline and simplify the regulatory framework for business operation (through diagnosis, process design, implementation, and evaluation).</td>
<td>Provides a simple conceptual framework on potential sources of corruption and inefficiency in business dealings with local authorities, especially those related to the registration of new business (including a checklist of potential problems).</td>
</tr>
<tr>
<td>Simplification (World Bank SME Department)</td>
<td></td>
<td>Provides a list of aspects to be measured and a step-by-step guide to basic tools (regulatory impact assessment, process element mapping) with case studies.</td>
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<td>Available at:</td>
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<td><a href="http://rru.worldbank.org/Toolkits/Regulatory">http://rru.worldbank.org/Toolkits/Regulatory</a></td>
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<td>Reform/</td>
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<td><strong>ODI: Successful communication—A Toolkit for</strong></td>
<td>Provides a toolkit for formulating a communications strategy for research centres and civil society organisations in the developing world to influence policy makers and stakeholders.</td>
<td>Provides broad explanations of and links to resources and further reading for general analytical tools and frameworks (problem tree, for example), with particular focus on the participatory process (identifying and analysing stakeholders).</td>
</tr>
<tr>
<td>Researchers and Civil Society Organisations**</td>
<td>Provides tools used to plan, package, target, and monitor the effects of a communications strategy.</td>
<td>Lists and reviews numerous Web sites and toolkits.</td>
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<tr>
<td>(Overseas Development Institute)</td>
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<td>Available at:</td>
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<tr>
<td><strong>Primer Minister’s Strategy Unit, Cabinet Office</strong></td>
<td>Provides a four-stage toolkit for the strategic planning process (justification setup, research and analysis, strategic direction setting, policy and delivery design) for process leaders and practitioners.</td>
<td>Provides accessible content for a wide variety of users.</td>
</tr>
<tr>
<td>U.K., Strategy Survival Guide</td>
<td>Provides examples for each stage of the process and highlights management issues; includes checklists of questions that need to be addressed and the skills needed in the strategic planning process.</td>
<td>Covers all phases and most aspects of a strategic planning process, including building and managing a planning team, and analysing status quo.</td>
</tr>
<tr>
<td>Frequent updates (summary or full version) are at:</td>
<td></td>
<td>Includes guidance and discussion of analytical tools (including problem tree, SWOT, benchmarking, quantitative and qualitative forecasting).</td>
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<tr>
<td><a href="http://www.strategy.gov.uk">www.strategy.gov.uk</a></td>
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<tr>
<th>Document</th>
<th>Summary description</th>
<th>Relevance for the local economy assessment</th>
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</thead>
<tbody>
<tr>
<td>(North Central Regional Centre for Rural Development)</td>
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<tr>
<td>Can be purchased or viewed in read-only format at:</td>
<td></td>
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<td><a href="http://www.ncrcrd.iastate.edu/pubs/contents/186.htm">http://www.ncrcrd.iastate.edu/pubs/contents/186.htm</a></td>
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<tr>
<td>La estrategia de las ciudades—Los Planes Estratégicos como instrumento:</td>
<td>Toolkit with guidelines to strategic planning in cities based on experience of CIDEU cities.</td>
<td>Includes guidance on SWOT, PEST, and stakeholder analysis tools.</td>
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<tr>
<td>Métodos, técnicas y buenas practicas (CIDEU)</td>
<td>Looks at formulation of a vision, LED assessment, implementation, and monitoring. Illustrates each phase with a city case study in Latin America or Spain.</td>
<td>Provides a theoretical framework for strategy process and local economy assessment.</td>
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<td>Available in Spanish at:</td>
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<td><a href="http://www.cideu.org/site/content.php?id=108&amp;cat=140">http://www.cideu.org/site/content.php?id=108&amp;cat=140</a></td>
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Note: CIDEU, Iberia-American Centre for Strategic Urban Development; CIDA/FCM, Canadian International Development Agency/Federation of Canadian Municipalities; CDS, city development strategy; ECOLOC, Programme de relance des économies locales; FCM, Federation of Canadian Municipalities; ILO, International Labour Organization; LED, local economic development; PEST, political, economic, social, and technological analysis; SWOT, strengths, weaknesses, opportunities, threats (analysis); USAID, United States Agency for International Development; UN-HABITAT, United Nations Human Settlements Programme; MDP, Municipal Development Partnership.
There is a wealth of good textbooks on local and regional economic development analysis and on survey and statistical analysis methods. The following suggestions represent only a small selection of the available titles.

**Recommended Textbooks on Local and Regional Economic Development and Analysis**


* A useful text for individuals with a basic understanding of regional development and familiarity with basic economic concepts.


* A useful introductory text to LED and analytical tools that explains basic economic concepts and some of the key analytical tools discussed in this Resource Guide.


* Provides a useful explanation of regional impact models for those with some familiarity of local and regional economic development issues. In addition to explanations of economic base analysis and input-output models, the text provides case studies.


* A useful overview of the principles and values that shape definitions and strategies of local and regional development, and of the conceptual and theoretical frameworks capable of interpreting the implications local and regional development trends. It also covers the main policy interventions and instruments.


* Offers a model that can help understand the competitive position of a nation in global competition.


* Provides extensive coverage of data analysis tools, including newer tools (such as cluster mapping, multisector analysis, and scenario building) as well as the more traditional regional science tools (such as input-
output and shift share analysis). The text provides a practical guide to the use of analytical tools (with less focus on the theories behind the tools) and is likely to be most useful for those familiar with basic concepts in local and regional economics.

**Recommended Textbooks on Survey Methodology and Statistical Methods**


*Provides useful coverage of the basics of statistical analysis but is most useful when used with an appropriate statistical software program such as STATA or SPSS. (The text includes examples from both STAT and SPSS.)*


*Uses simple terminology to explain the survey research process, from basic research design to data analysis. Requires no previous experience with statistics, nor any mathematical skills. (The text is constructed around examples based on SPSS output, so is most valuable when used in conjunction with SPSS statistical software.)*


*Provides a good introduction for those with little or no prior knowledge of surveys. Provides sufficient coverage of the topic to be of interest to practitioners as well.*


*Provides extensive coverage of statistical analysis for those familiar with the basic concepts of both statistics and basic mathematics. Focuses on mathematical operationalisation of statistics instead of software applications.*


*Provides a useful introduction to the basics of statistical analysis in a non-technical way that requires little pre-existing knowledge of the subject.*
In addition to other Web sites mentioned throughout this Resource Guide, the following are especially useful in conducting local-level research.

**Donors and Multilateral Development Agencies**

The **Cities Alliance** provides resources on how to conduct local economy assessments, including guidelines on city development strategies (CDSs). The reports related to conducting the CDS process in numerous low- and middle-income cities are especially helpful.

http://www.citiesalliance.com/index.html

The **Federation of Canadian Municipalities** is an organisation that represents local governments in Canada. It also provides technical assistance to cities worldwide through its International Centre for Municipal Development funds by the Canadian International Development Agency. Its Web site features case studies, reports, and manuals on topics, including governance, LED, and sustainable development. The toolkit on participatory approaches is especially useful.

http://www.icmd-cidm.ca/ev.php?URLID=1&URL_DO=DO_ROOT&URL_SECTION=201&reload=1152007114

The **Iberia-American Centre for Strategic Urban Development (CIDEU)** is a network of cities in Latin America, Spain, and Portugal that operates with financial support from the national governments of participating cities. CIDEU supports social and economic development in its Iberia-American cities through strengthening the strategic planning process. The CIDEU Web site provides resources on strategic planning (in Spanish), including case studies, project documentation, and toolkits.

http://www.cideu.org/site/

The **International Labour Organization (ILO)**—The ILO’s LED Web site provides resources used for local economy assessments, including a toolkit for LED promotion in post-conflict settings, useful Web
links, and case studies from low- and medium-income cities. (Many of the case studies provide examples from smaller towns and cities.)


The Organisation for Economic Cooperation and Development (OECD)—The OECD’s LED Web site provides useful case studies, publications, and reports on local economy assessments.

http://www.oecd.org/topic/0,2686,en_2649_34417_1_1_1_1_1_37429,00.html

The Sahel and West Africa Club—The Web site for this OECD programme contains the ECOLOC (Les enseignements des études de cas sur les économies locales) toolkit, useful case studies, OECD reports, and other publications.

http://www.oecd.org/department/0,2688,en_2649_33711_1_1_1_1_1_1,00.html

The United Nations Human Settlements Programme (UN-HABITAT)—Urban Management Programme Web site provides resources needed in the local economy assessment process, including toolkits that are particularly good resources for the participatory component of CDSs.

http://www.unhabitat.org/categories.asp?catid=374

The United States Agency for International Development (USAID)—LED project in Ukraine hosts a Web site with a local economic strategy development toolkit, useful Web inks, and case studies on LED in Ukrainian cities.

http://www.led.net.ua/eng/

The World Bank’s LED Web site provides an LED toolkit and Web links for reports on the LED strategy formulation process, primarily in low- and middle-income countries.

http://www.worldbank.org/urban/led/

**Participating Cities**

Additional information on some of the cities participating in the Cities Alliance study discussed in this Resource Guide can be found online. See:

- The Port of Aden, Yemen—http://www.portofaden.com
- The City of Copenhagen, Denmark—http://www3.kk.dk/
- The City of Durban, South Africa—http://www.durban.gov.za/eThekwini
- The City of Glasgow, Scotland—http://www.glasgow.gov.uk
- The Municipality of Medellín, Colombia—http://www.medellin.gov.co/
- The City of Munich, Germany—http://www.muenchen.de/home/60093/Homepage.html
- The City of Poznań, Poland—http://www.city.poznan.pl/mim/strony/s8a/?lang=en
- The City of San Fernando, Philippines—http://www.sanfernandocity.gov.ph/
- The City of Toronto, Canada—http://www.toronto.ca/
City Networks and Associations

United Cities and Local Governments is an international organisation made up of individual cities and national associations of local governments from over 100 countries. The main local government partner of the United Nations, United Cities and Local Governments promotes the policies and exchange of experience among members on topics including poverty, sustainable development, and social inclusion.

http://www.cities-localgovernments.org/uclg/

The InfoCity initiative, funded by the Cities Alliance, facilitates the exchange of experiences, ideas, and knowledge among cities that have completed, or are in the process of completing, a CDS under the Cities Alliance CDS framework in East Asia.

http://www.infocity.org/

The Indonesian City Network is a knowledge-sharing platform for cities that have conducted, or are in the process of conducting, a CDS under the Cities Alliance CDS framework in Indonesia.

http://www.cdsindonesia.org/

The League of Cities of the Philippines coordinates a national CDS learning network among Philippine cities that have been or are in the process of conducting a CDS under the Cities Alliance framework.

http://www.cdssea.org/db/default__new__asp?results=

The Federation of Municipalities in Central America is a nonprofit organisation whose aim is to strengthen the capacity of municipalities to combat poverty. It is made up of national and sub-national organisations and governments.

http://www.femica.org/

City Mayors is an independent and noncommercial Internet platform that addresses many aspects of urban affairs.

http://www.citymayors.com/

The South African Cities Network (SACN) is a network of South African cities and partners that encourages the exchange of information, experience, and best practices on urban development and city management.

http://www.sacities.net/index.html

COMPETE is a network of seven European cities (Barcelona, Spain; Dortmund, Germany; Helsinki, Finland; Lyon, France; Munich, Germany; Rotterdam, Netherlands; and Sheffield, U.K). The network facilitates the sharing of benchmark data and dialogue among practitioners and policymakers on priority theoretical and policy issues facing cities in Europe.

http://www.compete-eu.org/
**Eurocities** is a network of more than 120 European cities. It provides a common forum for the exchange of knowledge and ideas, and the analysis of common problems on topics including economic development and knowledge societies.

http://www.eurocities.org/main.php

**The National League of Cities (NLC)** is a U.S. organisation with membership comprising individual cities and towns, state municipal leagues, and relevant not-for-profit organisations. It helps strengthen local governments through research, analysis, and information sharing.

http://www.nlc.org/home/

This *Resource Guide* was based on an extensive research report comprising 15 case studies. Those documents can be downloaded from the Cities Alliance website: www.citiesalliance.org (see LED section).