



UN-HABITAT

Unlocking the
Potential of Cities:
**Financing
Sustainable
Urban
Development**



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**Financing Sustainable
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United Nations Human Settlements Programme (UN-Habitat)
P.O. Box 30030 00100 Nairobi GPO Kenya

Acknowledgements

This paper is prepared by Xing Quan Zhang and Neil Khor, UN-Habitat.

Thanks to Dyfed Aubrey, Lennart Fleck, Erastus Ndugire, Andre Dzikus, Debashish Bhattacharjee, Lee Yi Sean, Matt Benson, Melissa Chin, and Nicolas Yamayo for their comments in the preparation process of this paper.

Cover photos: Shutterstock.

Design and layout: Fredrick Maitaria.

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Executive Summary

Cities are the engine of national economic development and global development. Cities contribute to more than 80 percent of global GDP. Cities are also a source of some global problems. Cities are the biggest source of pollution in the world. Cities contribute to about 75 percent of global CO₂ emissions, with transport and buildings being among the largest contributors. The top largest 25 cities accounted for 52% of the total urban greenhouse gas emissions. Cities bear the largest responsibilities to fight climate change and to implement sustainable development goals.

The 2030 Agenda, the New Urban Agenda, the Addis Ababa Action Agenda on Financing for Development and the Paris Agreement on Climate Change set transformative roadmaps towards sustainable development. Cities are at the fore front to implement the Sustainable Development Goals, and to fight climate change. The New Urban Agenda calls for central governments and local governments to strengthen finance for sustainable urban development, and treat urban economy and urban finance as a cornerstone to sustainable urban development financing.

In 2023, the United Nations Secretary-General's SDG Stimulus to Deliver Agenda 2030 calls for accelerating financing SDGs. The global economy is facing multiple shocks that are threatening to further reverse progress on the Sustainable Development Goals (SDGs). The COVID-19 pandemic, impacts from the war in Ukraine, high inflation and weak economic growth, poverty, tightening monetary and financial conditions, and unsustainable debt burdens – along with the escalating climate emergency – are wreaking havoc on economies across the globe. The impact of these compounding shocks on developing countries is aggravated by an unfair global financial system that is short-term oriented and crisis-

prone, and that further exacerbates inequalities¹. It calls for a massive increase in financing for development, including humanitarian support and climate action of at least USD500 billion per year, to be delivered through a combination of concessional and non-concessional finance in a mutually reinforcing way. Against this background, UN-Habitat has prepared this position paper to present roadmaps to strengthen sustainable urban development finance and to unlock the potential of cities to accelerate financial actions to achieve SDGs at the city level.

This position paper examines the global urbanisation trends and characteristics, and the importance of investing in cities, the barriers and challenges for financing sustainable urban development, the financing gaps in the key urban development areas such as housing, infrastructure, water and sanitation, the impacts of COVID-19 on city revenue, diversification of funding sources and innovative instruments for enhancing sustainable urban development, and ways to remove the barriers to enhance sustainable urban development finance, and to unlock the potential of cities. The paper also makes policy recommendations on how to make cities more sustainable and investable.

The paper presents transformative roadmaps to unlock the potential of cities through sustainable urban development finance. It recommends policies and actions to maximise urban development finance opportunities through diversifying funding sources, expanding own source revenues, broadening access to external finance, public private partnership, cooperation between different levels of governments, horizontal partnership of cities to pool and share resources, and deployment of innovative financing instruments.

A) The Opportunities, Characteristics and Challenges of Urbanisation

Global urbanisation prospects are diverging. It experiences different urban growth patterns in developing and developed countries. Developed countries experienced a high urbanisation rate and the pace of urbanisation is slowing down. Now the rapid urbanisation pace mainly lies in the developing countries. In mid-20th century, only 17.8% of the population of the developing world lived in cities, but in 50 years since 1950 that percentage has increased to over 40%. By the year 2030, almost 60% of the total population living in the developing world will live in cities. The urbanisation growth pattern is also a dividing line between the developed world and developing world. The developed countries' urbanisation rate (the percentage of total population living in urban areas) is basically above the world's average urbanisation rate, while the developing countries' urbanisation rate is below the average urbanisation rate. The urbanisation pace was faster in developed countries than in developing countries between 1800-1960. The urbanisation pace in developing countries has become accelerated since 1960s and faster than in developed countries.

93 percent of the future urban population growth will occur in the developing countries. Most of the urban population growth will be in Asia, Africa and Latin America, which respectively accounts for 54 percent, 32.5 percent and 6.8 percent of the total urban population growth.

There is an increased tendency to suburbanisation and urban sprawl. The total area covered by the world's cities is set to triple in the next 40 years – losing agricultural land and threatening the planet's sustainability. In 2010, the total area covered by urban built-up areas that comprise the footprint of the world's urban settlements was around 1 million sq km. If the urban population and long-term de-densification trends continue, the area of the planet covered by urban settlements will increase three times to more than 3 million sq km by 2050. This poses huge challenges on sustainable urban development.

Small and median-sized cities dominate global urban growth. About 75 per cent of the world's population live in small cities with fewer than 500,000 people. Asia has the largest urban population living in small cities. Africa will have the fastest growth pace in small cities, which will double or even triple in population over the next 15 to 25 years. Small cities have weak financial capacities, which lead to large infrastructure and services shortfalls, few opportunities for economic growth, and rising urban poverty.

Cities are the engine of national economic growth. Cities contribute to more than 80 percent of global GDP. Higher densities of people and compactness of building and facilities in cities mean that the per capita investment for infrastructure and operation and maintenance costs for urban infrastructure and services can be lower. The per capita requirement of energy and corresponding carbon emissions in cities can also be lower compared to levels when the same population is dispersed over a large area. As cities bring people in close proximity to each other, they also promote social interaction and creativity. In essence, cities can be the foundation of environmentally sustainable social and economic development.

Cities have higher productivity than rural areas. Larger cities have higher productivity than smaller cities. Cities in developed countries have higher productivity than those in developing countries. Cities are characterised by increasing returns to scale. How such increasing returns are generated has impacts on productivity and has potentially important policy implications. In particular, there are different levels of relationship regarding labour, the nature of industries and products, and the production functions of individual firms, the input-output structure that links firms, and how firms compete.

Urbanisation has a positive correlation with productivity. The higher the urbanisation level, the higher the productivity. Such positive correlation is higher in developed countries than in developing countries.

Urban productivity has a positive correlation with urban density. The higher density cities tend to have higher productivity. However, Africa's urbanisation appears to be unique. Africa experiences a higher urbanisation pace, but low increase in productivity, sometimes even decrease in productivity. For example, compared to USA, Africa's labour productivity remained at 12% of that of USA between 1990 and 2018. In contrast, countries in developing Asia have been catching up as the Asia-to-USA labour productivity ratio increased from 19% to 24% over the same period.

Infrastructure investment has a multiplier effect to boost economic growth. To increase infrastructure investment spending by 0.5 percent of GDP can raise 1 percent of GDP. Countries with less fiscal space spend about one third of that amount over the same period, global output could increase by close to 2 percent by 2025. About a third of that impact would come from cross-border spillovers.

Cities face increasing challenges to finance the pressing needs for infrastructure and services. Municipal revenues are often insufficient to meet the large and growing needs for public spending. At the same time, urban policymaking is often hampered by the lack of an enabling environment

— a clear structure for decision making. Institutions often have overlapping and unclear mandates over decisions that affect the city, and in many cities existing institutional structures fail to adequately address cross-district urban issues.

Cities in developing countries have weaker capacities to generate own source revenue than those in developed countries, while they need more investment. The lower the economic development level of a country, the weaker the financial capacities of its cities, but the higher the financing needs and financing gap in cities. The average annual own source revenue by local governments is USD 12 in low-income countries, USD 45 in low middle income countries, USD 267 in middle income countries, and USD 2,944 in high income countries.

African cities have extremely weak capacities to generate own source revenue, while facing the fastest urban growth. For example, in Iwo in Nigeria, the city's own source revenue only accounts for 2.2% of the total revenue. Kenema city in Sierra Leone can only raise a total revenue of USD 0.31 per capita, while the city of Aberdeen in UK with a similar size of population to Kenema raises a total revenue of USD 5,612 per capita. The revenue per capital in Aberdeen city is 18,103 times that of Kenema city. This is an incredible contrast of revenue-generation capacity between African cities and cities in developed countries.

Cities are lack of adequate housing investment. To meet the targets set by SDG11, the world needs to invest about USD 3 trillion to USD 4 trillion a year to achieve adequate housing for all. In addition, a substantial amount of funds will be needed for maintenance and improvement of the existing housing stock. Owing to rapid urbanisation, the gap in investments is growing.

There are about 830 million people living in slums in the world and considering another 2 billion additional increase of urban population by 2030, about 3 billion people or 40 percent of the world's population in 2030 will need new housing. 565 million new housing units will be needed.

There is a huge gap in infrastructure investment, developing countries need an extra USD 1.3 trillion of investment in urban public infrastructure each year. The global infrastructure investment gap is USD 1.1 trillion to USD 1.5 trillion in developing countries. The infrastructure investment gap is around USD 180 billion a year for the Asia Pacific region, USD 24 billion a year for Latin America, and more than USD 93 billion a year for Africa. For fragile African states, more than 37 percent of GDP needs to be invested in infrastructure. The global need for infrastructure investment ranges from USD30 trillion to USD40 trillion in the next two decades.

There is a financing gap for Water and Sanitation at around USD700 billion per year. The total economic losses associated with inadequate water and sanitation services are estimated at USD260 billion annually, which is roughly equivalent to an average annual loss of 1.5% of global GDP. The destructive human and economic impact of global pandemics highlights the vulnerability of those that do not have access to safe water and hand-washing facilities. Investments in universal access to water and sanitation, in support of public health, can make a substantial difference and have a catalytic impact on other sectors. A lack of sufficient resources to meet sanitation targets is reported in all SDG regions. Quantitative data from 20 countries and territories reveal a water and sanitation funding gap of 61% between identified needs and available financing for water and sanitation.

Barriers to Financing Sustainable Urban Development

Urban infrastructure projects play a very important role in promoting city economy and have high impacts on sustainability. However, most urban infrastructure investments suffer from a range of market and institutional failures which impede the capacity of countries and cities to mobilise adequate financing for urban infrastructure. This contributes to a lack of bankable projects likely to deliver appropriate risk-adjusted returns.

Urban infrastructure development projects are potentially profitable in the long term and have significant benefits to the economy and society. However, they are subject to a range of market failures due to externalities, scale of economies, natural monopoly, imperfect information, and public goods.

Market failures are often linked to failures in the institutional and regulatory arrangements that support the market. The institutional failures are mainly due to lack of regulatory framework and policy consistency and certainty. There is often significant uncertainty when investing in cities. This can relate to the lack of consistent standards for urban infrastructure projects, the lack of viable financing models to pay back upfront capital costs, the lack of transparency in municipal operations, and the lack of clear investment regulations, policies and legal frameworks. The technical and financial management capacities in cities in developing countries, particularly in low-income countries are weak. Many small (and even median-sized) cities in low-income countries do not have adequate expertise to design and execute investment projects. Cities often do not have institutional and regulatory frameworks in place to allow them to access private finance and international finance.

B) Diversification of Funding Sources and Innovative Instruments for Enhancing Sustainable Urban Development Finance

The diversification of funding sources and innovative financing instruments are two cornerstones for financing and delivering sustainable urban development.

Improved own source revenue can increase absolute revenues for a city but also improves the fiscal autonomy of city governments and allows them to better manage their public finances in a way which is more appropriate to their own economies and to better deliver the infrastructure and services.

City governments should be empowered to raise their own resources and diversify their revenue sources.

Improved urban revenue-generation capacity and incentives leads to improvements which is reflected in better cadastral services and municipal finance databases. This in turn creates efficiencies in the deployment of urban assets (such as land) and lowers the cost of doing business. It also improves transparency, strengthens cost recovery instruments, which forms the basis to attract capital and further investments to improve urban services.

City governments often generate own source revenues by two main forms: (1) local taxes, and (2) user fees and charges. Some cities also have developed innovative ways to expand their revenue bases, for example, the city government of Medellin in Colombia used appropriation of city government owned enterprise profits as part of its own source revenue.

Land value capture is an important and innovative alternative for generating local revenue to finance urban infrastructure. Cities can capture value which are generated by public policies and interventions through mechanisms such as land value taxation, betterment levies, land pooling and readjustment, sale of development rights, tax increment financing, revenue sharing, profit sharing, refinancing gain share, user fees, and impact fees.

A pooled financing approach is used to meet the need to address the investment requirements of small city governments which do not have adequate creditworthiness on a stand-alone basis in the market to undertake market borrowing and investment requirements.

Blended finance is an approach that blends scarce public funds with private sector capital to realise innovative, high-impact infrastructure projects that contribute to sustainable development, while providing adequate financial returns and reducing risks for investors. For example, during 2010 and 2016, IFC used more than USD 560 million of concessional donor funds to support more than 100 projects in over 50 countries, leveraging about USD 2 billion of IFC financing and USD4.6 billion from the private sector.

For many countries, particularly for low income and low middle income countries, intergovernmental transfers remain to be the most important source of funds for local governments. In some countries, intergovernmental transfers account for up to 90 percent or more of total local revenue, as it is the case in many cities in sub-Saharan Africa. For instance, in Tanzania from 2010 to 2013, intergovernmental transfers accounted for 92%, on average, while own revenues for the remaining 8%

Municipal Development Funds channel investment in urban infrastructure through municipal government and of strengthening the capacity of these institutions in the process. Municipal development funds are often established at national level in the form of a financial intermediary channeling resources in a mix of loan and grant resources, and in some cases, provide blended finance. More than 60 countries have established municipal development funds.

Debt finance is a major funding source to finance urban infrastructure for cities under decentralized fiscal systems. Borrowing can be done through bonds or bank loans, or pensions and other sources. These borrowed funds can come either from a private or public source. Debt instruments including bank loans or bonds are among the largest funding categories to finance infrastructure works in USA and China. The total of United States local governments borrowing through bonds stands at USD 3.8 trillion. The outstanding local governments bonds in China is 25.3 trillion yuan (USD 4 trillion).

Private finance of urban infrastructure has grown significantly over the past one or two decades. Public-Private Partnerships (PPP) are a typical arrangement for infrastructure project financing. PPP is often established through a long-term contract between a public-sector entity and a private sector entity for the design, finance, construction, operation and maintenance of public infrastructure. Risk distribution and responsibilities vary according to the type of contract entered between the public sector and private sector.

Move From Projects to Transformative Investments:

Private finance can be mobilised for sociotechnical sustainability transitions. Sustainability investing coevolved with corporate social responsibility discourse and with the practice in cities, having four distinctive waves of sustainable investing: (1) ethical investing; (2) socially responsible investing; (3) responsible investing; (4) impact investing. Each wave of sustainability investing triggers new investment strategies. Such practice comprised strategies like norm-based or index-screening, in which asset managers invest in companies that adhere to certain norms or a part of a sustainability-/ESG- market index, for example, Domini 400 Social Index - the socially responsible stock index; and the Dow Jones Sustainability Index.

MDBs are by far the largest international fund providers for sustainable urban development financing. The funds they provide to cities help to leverage all other sources of finance, leverage expertise, and scale-up solutions to support developing countries' sustainable urban development. World Bank finances an average of USD5 billion in projects on sustainable cities and communities every year to help cities meet the critical demands of urbanisation. The active portfolio stands at 231 projects amounting to USD33.9 billion, through a combination of instruments, including investment project financing, policy development loans, and Program-for-Results funding.

C) Make Cities More Sustainable and Investable: Policy Recommendations

(i) Choosing Appropriate Development Paths: Leveraging National Development Plans to Drive Local Development in Cities

Countries should choose appropriate development paths fit for their countries, fit for their development stages and conditions, and use national development plan as a tool to drive local development in cities.

The use of national development plans (NDPs) can be instrumental in guiding the development according to national priorities and conditions. Cities are part of national development. National development plans address the challenges of complexity, coherence and prioritisation. Spatial planning should be better aligned to national development plans within the planet's ecological footprint.

(ii) Develop a Sound Regulatory and Institutional System

Countries should develop a sound financial regulatory and institutional system to enable the access to finance. Such efforts can focus on an enabling environment in the following four areas:

→ **The regulatory, legal and policy environment:** To establish a clear legal and regulatory system to authorise and govern subnational and local government borrowing, and to develop effective and efficient land and property system and markets.

→ **The institutional environment:** To ensure that adequate institutions are in place, with the right skills and capacity needed to structure and implement financing instruments and to avail investment opportunities to the private sector. Government institutions are effectively coordinated with clear assignment of responsibilities, accountability and predictability.

→ **The investment and credit environment:** credit ratings in cities are needed to demonstrate the creditworthiness of cities in order to attract financing from capital markets, the private sector, and etc. Cities need to develop the capacity to plan and manage large capital projects, currency risk, and interest rate volatility.

→ **The fiscal environment:** How the government manages and monitors its spending levels, tax rates, and liabilities with respect to the financing instruments will directly affect the willingness of the private sector to invest.

(iii) Promoting New Partnership Models to Leverage Private Sector Finance

Countries can create a Public Private Partnership (PPP) enabling environment through the establishment of necessary legal and regulatory regimes, policies and streamlined administrative procedures to promote PPPs to leverage private sector finance.

Public-private partnerships (PPP) can create innovative, mutually beneficial opportunities for sustainable urban development by local governments, the private sector, and other actors to find scalable solutions to urban development challenges.

Promote Vertical Partnership Between Different Levels of Governments. The effective implementation of some financial instruments and products often depends on a structured cooperation between all levels of government, particularly for those infrastructure which connect different territories. The financing of small and medium-sized cities will rely more on the upper financing and support through intergovernmental transfers and technical and administrative support. For example, large transportation infrastructure investment often requires substantial regional coordination.

Improving multi-level cooperation is key to ensuring climate policy is translated into local action and becomes the basis for the allocation of public funds from the national budget. In the most successful development models (from the Developing World to the First World, for example, Singapore), the state leads by allocating capital and creates the right kind of investing environment (Ease of Doing Business index). If we want financing from the private sector to follow, we need strong state-led economies with de-centralised economic sectors and specialisations at the regional and local level.

Promote Horizontal Partnership between Cities for Sharing and Pooling Resources. Two or more cities enter into a horizontal collaborative arrangement to pool and share resources. City governments with a small population and consequently a small revenue base are adopting this approach. The small base reduces the capacity of these city governments to attract and maintain highly skilled and experienced staff. The forming of a collaborative arrangement allows city governments to pool resources, reduce duplication and form a common platform to develop initiatives.

Promote the Public Private People Partnership (4P). The 4P approach is a way to address the problems related to public-private partnerships by bringing the general public into the partnerships alongside with public and private actors, particularly to address the problems of exclusion and lack of transparency, and to improve the welfare of people.

(iv) Supporting Cities to Improve Creditworthiness

Cities will need to innovate and access private sources of long-term financing through local capital markets and commercial partnerships. The important thing cities need to do to attract investment from private sources is to make their cities creditworthy. Cities should focus on improving their revenue generation, financial management capacities, project implementation capacities and to create an enabling environment for cities to access external finance.

(v) Enhancing Public Investment in Sustainable Urban Development

Public investments can play a catalytic role in financing sustainable urban development, particularly the provision of a functioning infrastructure. Public investment stimulates economic activity and raises the productivity of existing private capital (physical and talent). Public investment also encourages new private investments to take advantage of the higher productivity it creates, increasing economic growth. Cities should enhance public investment to leverage private investment.

(vi) Optimising Cities' Own-Source Revenue

Own source revenue can increase absolute revenues for cities and also improves the fiscal autonomy of city governments and allows them to better manage their public finances in a way which is more appropriate to their own economies and to better meet their urban development needs.

Cities should perform a thorough gap analysis to define the potential revenue sources and their impacts for any given stream. It involves analysing the city's revenue baseline to determine current revenue generation across all streams and then comparing revenue streams against benchmarks for peer cities to identify any gaps. With initial adjustments for relevance and size of potential revenue sources and their impacts, cities can select the most promising streams as revenue generators.

Land is a primary asset for many cities. In many cases, it is under-utilised. Cities should develop tools and instruments to unlock and capture the land value to finance urban development. Cities hold critical planning, design and development permitting responsibilities, together with effective land asset utilisation, can unlock significant public and private financing in the form of land value capture.

(vii) Promoting Positive Urbanisation and Urban Productivity

Urban productivity and own source revenue are positively interrelated. Better economy and productivity will help cities to generate more own source revenue. Weak economic power will impede the efforts to generate more own source revenue. Therefore, it is essential for cities to invest more in productive assets of cities to boost urban productivity.

Urbanisation drives productivity through improved division of labour and specialisation, economies of scale, agglomeration and urbanisation. The effectiveness of urbanisation in driving productivity depends on how cities grow, the quality of cities and the ways they are financed.

However, urbanisation can also occur in the absence of economic growth and lack of productivity. For example, in some Sub-Saharan African countries, urbanisation has occurred to a large extent independent of economic development and without structural transformation. African urbanisation does not lead to the much increasing of productivity. For example, compared to USA, The Africa's labour productivity remained at 12% of that of USA between 1990 and 2018. In contrast, countries in developing Asia have been catching up as the Asia-to-USA labour productivity ratio increased from 19% to 24% over the same period.

(viii) Making Effective Use of External Sources of Finance

Access to external finance varies among cities. This can be related to the level of municipal finance infrastructure and capacities. A number of external sources of finance are available to cities.

Municipal bonds are an option available to cities to raise resources for financing long term projects such as urban infrastructure development, particularly for some developed countries. Over 50,000 local governments and authorities in USA have used tax-exempt bonds to invest in three quarters of the infrastructure development. Local governments have an outstanding USD 4 trillion municipal bonds in USA in 2023.

Special Purpose Vehicles (SPVs) are widely used in some countries such as China to raise funds for urban infrastructure development. The funds raised through SPVs by local governments in China was equivalent to 32.6% of GDP in 2010 and rose to 121.1% of GDP in 2020.

Another innovative to access external finance is through climate financing. Climate finance flows for cities reached an estimated USD 384 billion annually on average in 2017/2018, of which, USD 75 billion is tracked using bottom-up, project-level information, USD 147 billion is estimated from expenditures in urban green transport, and USD 161 billion is estimated from expenditures in urban green buildings and appliances.

De-risking or risk-mitigation support is important for countries to attract private investments into urban infrastructure. It can take many forms, from financial guarantees to availability payments, influencing the risk profile of the project and therefore making it attractive for the private investor or lender. It also involves to strength the infrastructure enabling environment by country across key metrics: governance, regulatory frameworks, permits, planning, procurement, activity, funding capacity,

and financial markets. By identifying each country's top-performing metrics, as well as those with the most room for improvement, governments can develop informed policies to facilitate greater public and private infrastructure investment. There are close links between the risks and the development level of countries. Countries achieve higher development/income levels, the funding gap reduces. Countries improve their processes as they get richer, while better processes also lead to greater prosperity, de-risk their investment, more funding can be made available.

(ix) Strengthening the Role of Multilateralism and Multilateral Development Banks (MDBs)

Facing the increasing urban challenges, we need stronger and better multilateral institutions to support cities.

MDBs can help countries to leverage private capital at scale through new, innovative investment vehicles and platforms to complement public investment. MDBs are increasingly leveraging other sources of finance, particularly private sector co-investment. Assistance from MDBs would additionally help cities address their social and environmental needs. It can also be an important driver in attracting and complementing private sector investment, and blended finance.

(x) Enhancing the Financial and Technical Capacities of Cities in Preparation and Implementation of Investable Projects

Improve the capacity at the local level for investment and capital management. City governments are in the forefront of project implementation, they require adequate technical and financial capacity to ensure the success and quality of project delivery. Promote participatory budgeting, gender-based budgeting, SDG-aligned development budgeting. Promote a human-rights based approach to urban development, and put people and sustainability at the centre during the development process.

There is a need for cities to improve their capacities to prepare project pipelines, and to have better project preparation and project appraisal to enhance the viability of urban projects, to improve the financial management and efficiency to ensure stable and predictable revenue streams which can enhance the bankability of projects.

chapter

01

The Trends and Characteristics of Global Urbanisation

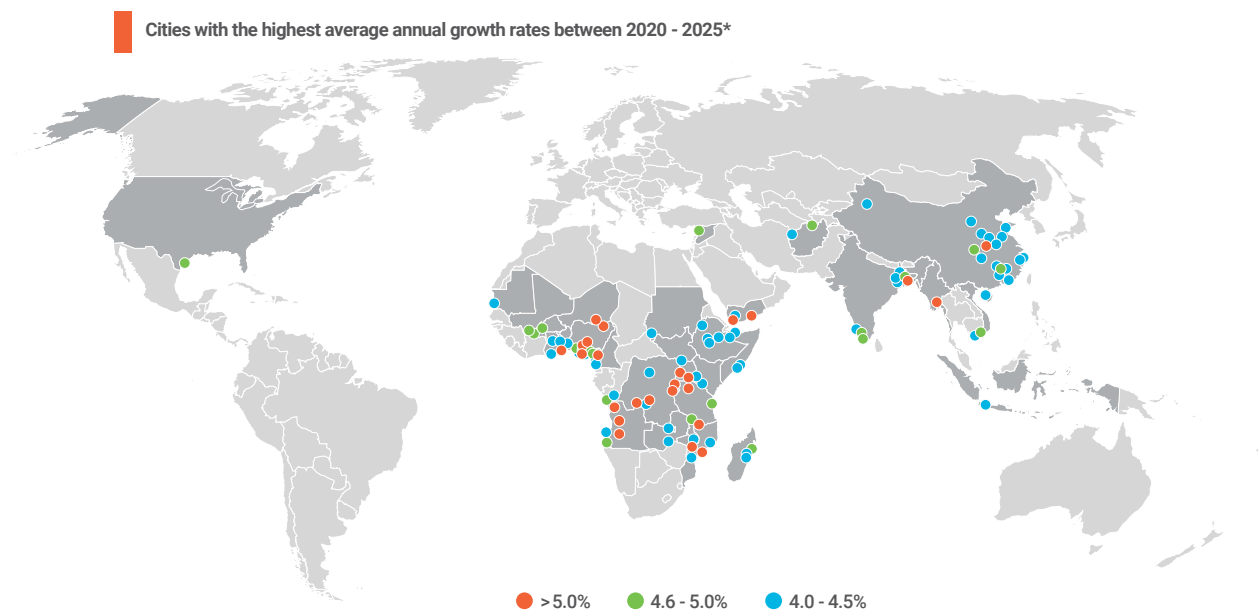
Cities are the engine of national economic development and global economic development. Cities contribute to more than 80 percent of global GDP. In the meantime, cities are also a source of some global problems. They are the biggest polluters. Cities contribute to 75 percent of global CO2 emissions, with transport and buildings being among the largest contributors². The top 25 cities accounted for 52% of the total urban greenhouse gas emissions³.

Urbanisation of the planet is the most concrete phenomenon of the changes in global human settlements patterns. The increase of migration flows in the age of urbanisation throughout the 20th and 21st centuries helps us to understand the dynamics of urbanisation. Each day thousands of migrants arrive in cities around the world to look for opportunities for a better life. The movement of people from rural areas to cities is so widespread and is having tremendous impacts on the way we live and work. Urbanisation is the defining aspect of our time⁴.

Rapid urbanisation is happening in many parts of the world. In 1800, only 2 percent of the world's population lived in urban areas. In 1900 just 15 percent of the

world's population lived in towns and cities. The 20th century transformed this process, as the pace of urban population growth accelerated very rapidly from 1950s. In 1950, more than two thirds (70 percent) of people worldwide lived in rural settlements. In 2007, for the first time in history, more than half of the world's population was urban. In 2023, 56 percent of the world's population live in urban areas. It is expected to increase by 72 percent by 2050, from 3.6 billion to 6.3 billion⁵. The world is transforming itself quickly not only in the percentage of population living in urban areas but also in the growth of cities. There are currently 34 cities with a population of 10 million or more⁶. 50 years ago, only New York's population reached that level. However, within a 50-year period, the number of cities with a population greater than 1 million has increased from 80 to 533⁷. The world's fastest population growing cities are Delhi, Shanghai, Dhaka, Kinshasa, Chongqing, Lahore, Bangalore, Lagos, Cairo and Beijing. They are all in the developing countries in Africa and Asia⁸ (Figure 1). Rapid global urbanisation has tremendous economic, social and environmental impacts. Have we equipped ourselves with the necessary resources to cope with rapid urbanisation?

Figure 1: The fastest growing cities in the world



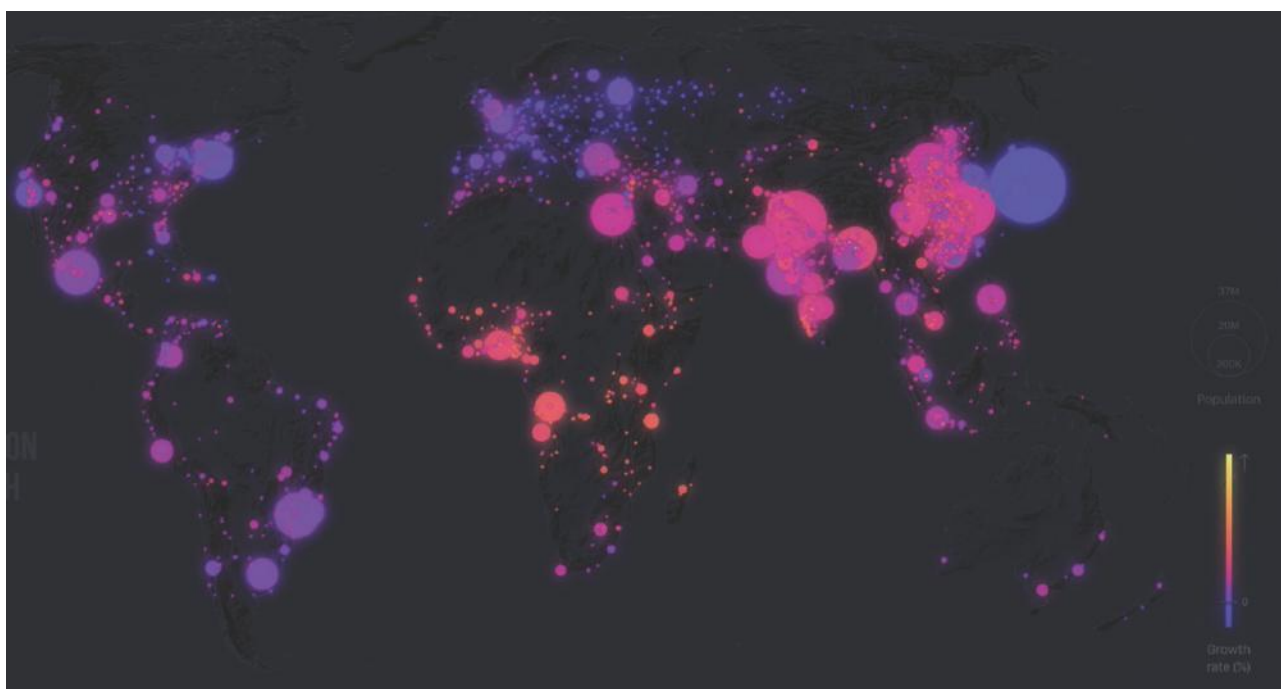
Source: Stastica based on data from UNDESA

Different Urban Growth Patterns in Developing and Developed Worlds

While the urban population in the developing world is close to those in the developed world in 1970s (see Figure 2), the pattern and size of urban agglomerations are diverging from the developed world. During the last few decades, the urban systems in the developed world have become increasingly balanced, witnessing the decline of the share of population living in the largest cities and increasing in the small and medium-sized cities (Figure 2). The urban growth in the developing world has instead been absorbed by their largest cities⁹. The fastest urban growth is in Asia and Africa. China, India, Indonesia, Philippines, Nigeria,

DRC, Egypt and Turkey are the largest urban growth poles (Figure 1). A 2007 UN survey showed that 88 percent of respondents from the developing world reported that the spatial distribution of urban population is unsatisfactory. The number of countries with policies seeking to reduce migration to cities grew from 44 percent to 74 percent¹⁰. The reasons are the increasing problems associated with the agglomeration of urban settlements including the challenge to provide adequate services and infrastructure. Cities are struggling for financing to perform their functions and to provide services¹¹.

Figure 2: Different Urban Growth Patterns in Developing and Developed Worlds



Source: <https://www.visualcapitalist.com/>

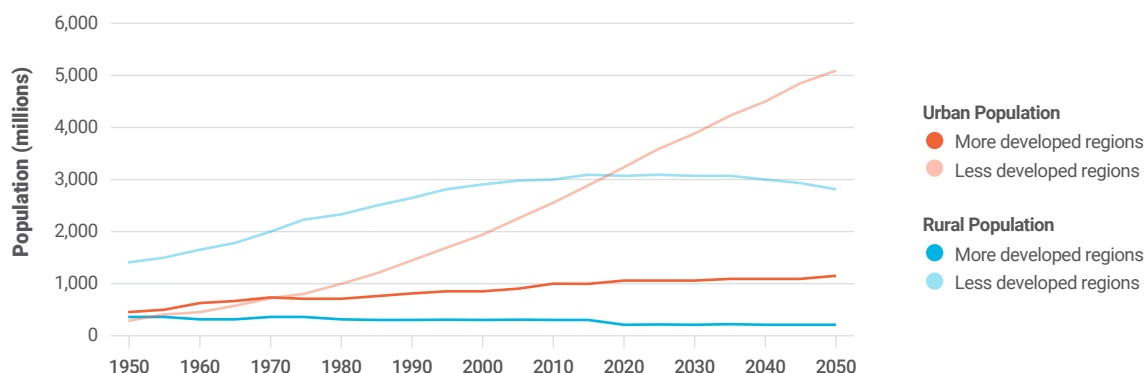
Urbanisation Virtually Coming to an End in the Developed World

Prior to 1950, the majority of urbanisation occurred in developed countries. The rapid urbanisation process in the developed world was the result of urbanisation, technological breakthroughs, industrialisation and expansion of trade and commerce in Europe and North America in the 19th and 20th centuries. For example, in the United States, about 5% of the population lived in cities in 1800. However, by 1920 about 50% of the population lived in cities. Throughout the 19th and the first half of 20th centuries, the U.S.A. was one of the fastest urbanisations on earth. The same was true for most European countries during the same period¹². Since 1950, urbanisation has slowed down in most of these developed countries. Some large cities in the developed countries

began to lose population as people moved away from the cities to rural areas, The urbanisation process in the developed world has almost come to an end¹³ (Figure 3).

According to a joint study by Oxford University and Humboldt-Universität zu Berlin, the sudden and acute shock of COVID-19 has long term growth trajectories of European cities and formed overarching patterns. Population growth in European cities became negative (-0.3 % per annum, compared to an average growth rate of +0.3 %) compared to pre-pandemic years. About Some 93% of major metropolitan areas in Europe “shrank” or lost population as a result of the impact of COVID-19¹⁴.

Figure 3: Urban and Rural Population Growth in the Developing and Developed Worlds



Source: UNDESA

Suburbanisation and Urban Sprawl

There is an increased tendency to suburbanisation and urban sprawl. The total area covered by the world's cities is set to triple in the next 40 years – eating up farmland and threatening the planet's sustainability. In 2010, the total area covered by urban built-up areas that comprise the footprint of the world's urban settlements was around 1 million sq km. If the urban population and long-term de-densification trends continue, the area of the planet covered by urban settlements will increase to more than 3 million sq km by 2050. This posts huge challenges to sustainable urban development¹⁵.

Suburbanisation refers to the spreading of urban population and employment from the central cities to low density suburban areas. This movement results in an increased dispersion of urban population and employment over a wider land area¹⁶. The urbanisation process began on a significant scale in the 1920s and accelerated after the Second World War, especially in North America. The suburban expansion was driven by the following factors: (1) Suburbs have cheaper housing prices. Rapid development of modern transportation infrastructure make travelling costs cheaper, therefore, suburban living meet both the lower cost of new housing

and the associated transport due to the rapid growth of the urban population and rising disposable incomes; (2) Widespread diffusion of the automobile vehicles and improved infrastructure enhanced individual mobility; (3) Suburbs provide the particular living environments and quality of life which the inhabitants desired and could pay for, escaping from crowded and increasingly dangerous inner cities; (4) Huge demand for affordable housing at the end of World War II and led to booming of suburban living; (5) Rising unemployment at the core cities and forced people move away from cities to search for employment elsewhere, for example, between 1951 and 1981, 11 UK major cities lost 31 percent of their population¹⁷; (6) Loan programmes encouraged the development of single-family, detached houses in the suburbs; (7) The guaranteed fixed-interest mortgage made it cheaper in many cases to buy a house in suburban areas than to rent an apartment in inner cities; (8) The goals were promoted by public policies that favoured highway construction over mass transit¹⁸; (9) rising problems such as crimes, congestion and air pollution motivated well-off families escape inner cities and moved to suburban areas¹⁹. Figure 4 shows a typical suburbanisation development pattern in USA.

Figure 4: An example of suburbanisation and urban sprawl in USA

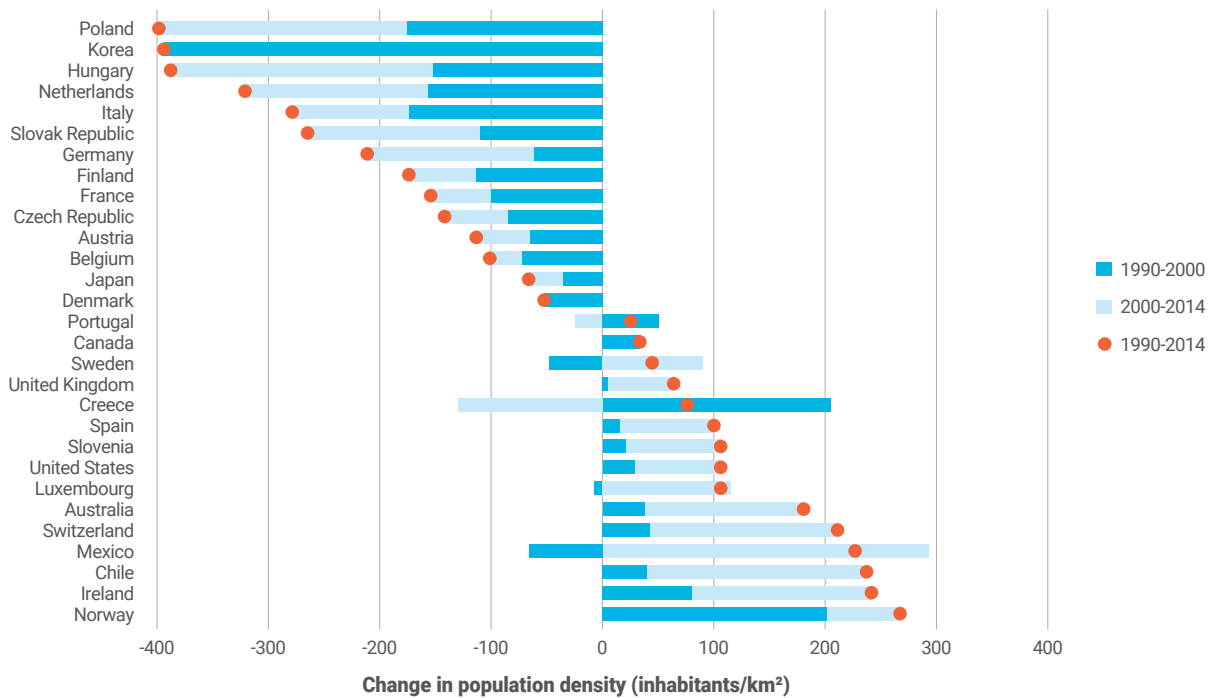


Source: Per Square Mile

Another problem closely related to suburbanisation is urban sprawl. Urban sprawl as an urban development pattern is characterised by low population density, with development spreading out over large amounts of land, putting long distances between homes, stores, and work and creating a high segregation between residential, offices, industries and commercial uses²⁰, sometimes

extending for miles outside of the urban limits. Since the 1970s, the number of people living in the suburbs has increased dramatically, and urban sprawl has become a major issue in many countries around the world²¹. In OECD countries, more than half of the countries become less dense in their population distribution (Figure 5).

Figure 5: De-densification of cities leading to urban sprawl



Source: OECD

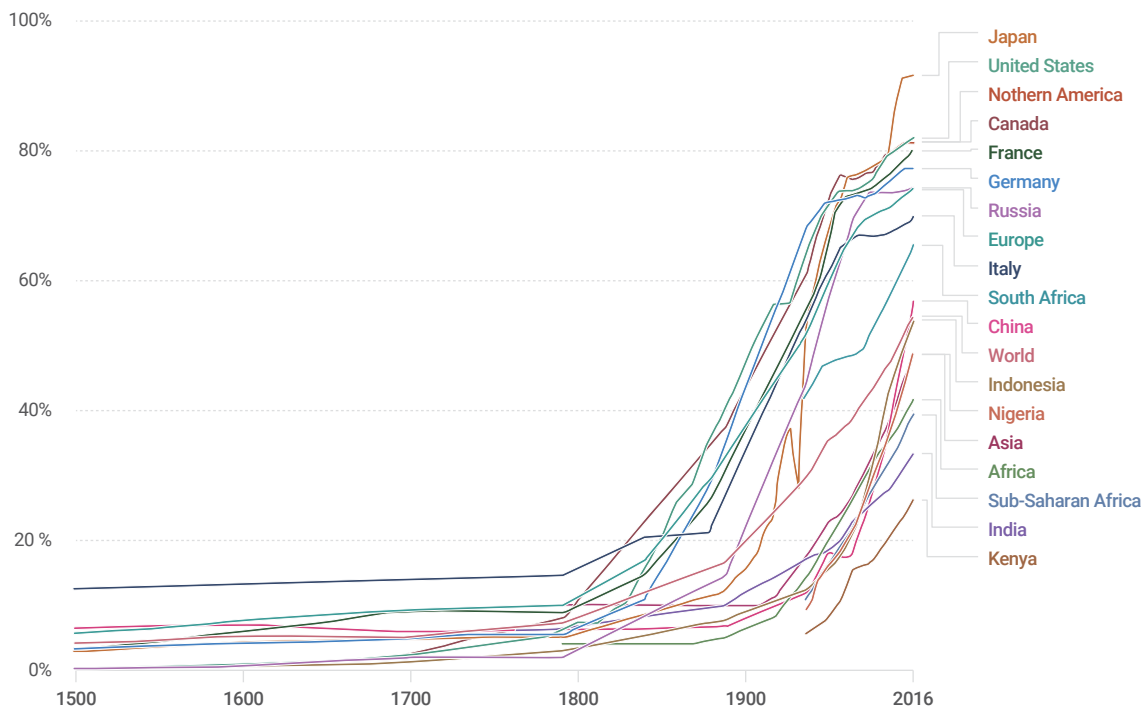
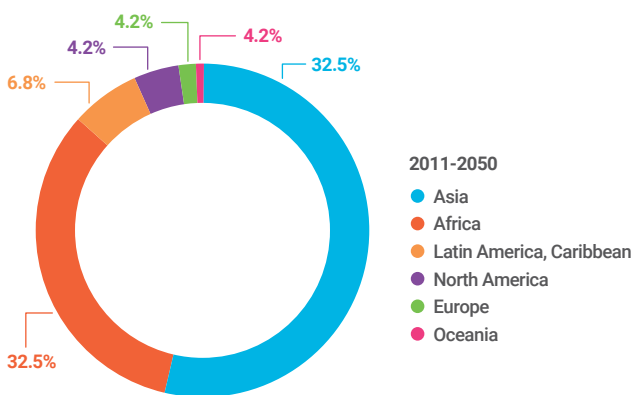
Rapid Urbanisation in the Developing World

Now the rapid urbanisation pace mainly lies in the developing countries. At mid-20th century only 17.8% of the population of the developing world lived in cities, but in 50 years since 1950 that percentage has increased to over 40%. By the year 2030, almost 60% of the total population living in the developing world will live in cities²². The urbanisation growth pattern is also a dividing line between the developed world and developing world. The developed countries' urbanisation rate (the percentage of total population living in urban areas) is basically above the world's average urbanisation rate, while the developing countries' urbanisation rate is below the average

urbanisation rate. The urbanisation pace was faster in developed countries than in developing countries between 1800-1960. The urbanisation pace in developing countries has accelerated since 1960s and faster than in developed countries (see Figure 6 lower part).

It is estimated that 93 percent of the future urban population growth will occur in the developing world. Most of the urban population growth will be in Asia, Africa and Latin America, which respectively accounts for 54 percent, 32.5 percent and 6.8 percent of the total urban population growth (Figure 6)²³.

Figure 6: Urban Population Growth in Different Regions 2011-2050 (per cent of total urban population growth)



Sources: upper part: UNDESA; lower part: Authors generated from OWID based on UNDESA

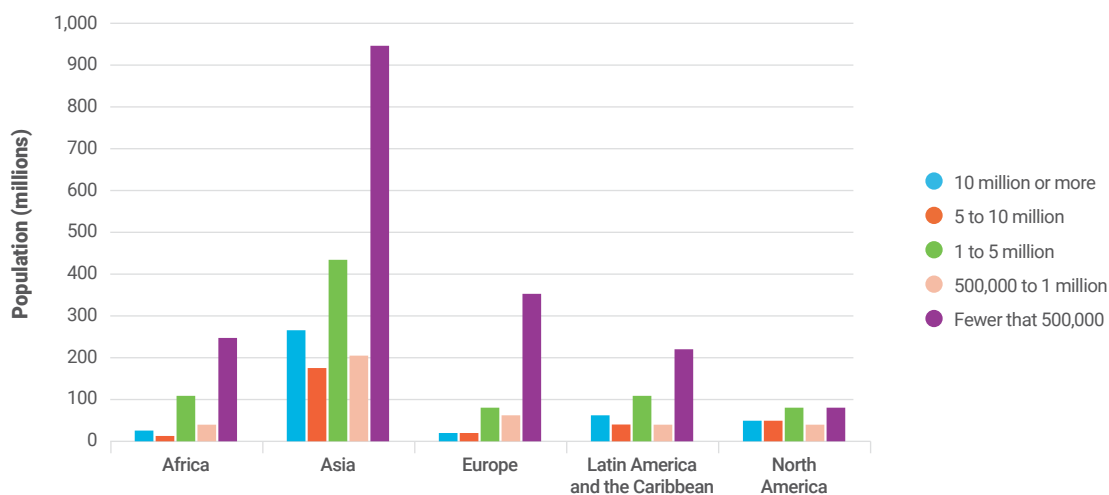
The Predominance of Small and Median-Sized Cities

Small and median-sized cities dominate the urban growth. About 75 per cent of the world's population live in small cities with fewer than 500,000 people. Asia has the largest urban population living in small cities (Figure 7). Africa will have the fastest growth pace in small cities, which will double or even triple in population over the next 15 to 25 years. Small cities have weak financial capacities, which lead to large infrastructure and service shortfalls,

few opportunities for economic growth, and rising urban poverty²⁴.

There are more than 4,000 cities in the world with populations exceeding 100,000. Around 2,400 of these have population of fewer than 750,000 and more than 60 per cent are located in developing regions and countries²⁵.

Figure 7: the Dominance of Small and Median-Sized Cities



Source: <https://blogs.iadb.org/>

chapter

02

Why Invest in Cities?

Well-functioning cities can boost national economic development, while dysfunctional cities impede sustainable development. As the world becomes even more urbanised in the 21st century, UN support for urban development will be more effective and synergistic if it adheres to the Sustainable Development Goals, which informs broader national development strategies. Investment in cities can increase opportunities for cities to enhance development efforts and mitigate environmental threats, such as climate change; and help cities to develop robust economies, with increasing opportunities for employment and generate tax incomes for governments. These investments are necessary in order to provide adequate infrastructure, facilities and housing serving the needs of all urban residents. This will lead to safe, healthy and environmentally friendly, sustainable places to live and work for all²⁶. The key benefits of investing in cities are described below.

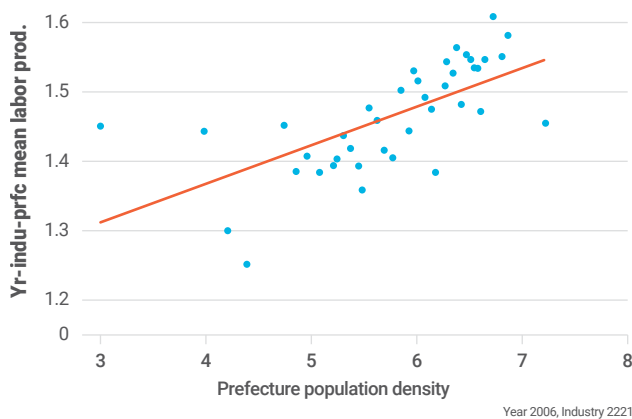
Cities are the engine of economic growth. Cities contribute to more than 80 percent of global GDP. Higher densities of people and compactness of building and facilities in cities (for example, Hong Kong) mean that the per capita investment for infrastructure and operation and maintenance costs for urban infrastructure and services can be lower. The per capita requirement of energy and corresponding carbon emissions in cities can also be lower compared to levels when the same population is dispersed over a large area. As cities bring people in close proximity to each other, they also promote social interaction and creativity. In essence, cities can be the foundation of environmentally sustainable social and economic development.

Cities are characterised by increasing returns to scale, and how such increasing returns are generated has potentially important policy implications. In particular, there are different levels of relationship regarding labour, the nature of industries and products, and the production functions of individual firms, the input-output structure that links firms, and how firms compete²⁷.

Three main mechanisms can explain urban increasing returns and productivities. First, the scaling up of a city, i.e., a larger city, allows for a more efficient sharing of indivisible facilities (e.g., local infrastructure), risks, and the gains from variety and specialisation. It is easier to recoup the cost of an infrastructure or, for specialised input providers, to pay a fixed cost of entry. Second, a larger city allows for a better matching between employers and employees, buyers and suppliers, partners in joint projects, or entrepreneurs and financiers. This can occur through both a higher probability of finding a match and a better quality of matches when they occur. Finally, a larger city can facilitate learning about new technologies, market evolutions, or new forms of organisation. More frequent direct interactions between economic agents in a city can favour the creation, diffusion, and accumulation of knowledge. These sources of urban increasing returns differ from the traditional 'trinity': spillovers, input output linkages, and labour pooling²⁸.

In addition, there is positive correlation between productivity and density. In some industries, the correlation between labor productivity and urban density is extremely high. For example, in machine-made paper and cardboard manufacturing, there is a strong positive correlation between density and productivity (Figure 8)²⁹. For high order services industries such as finance, business management, advertisements, commerce, the positive correlation between labour productivity and urban density is high.

Figure 8: Labour Productivity and Population Density



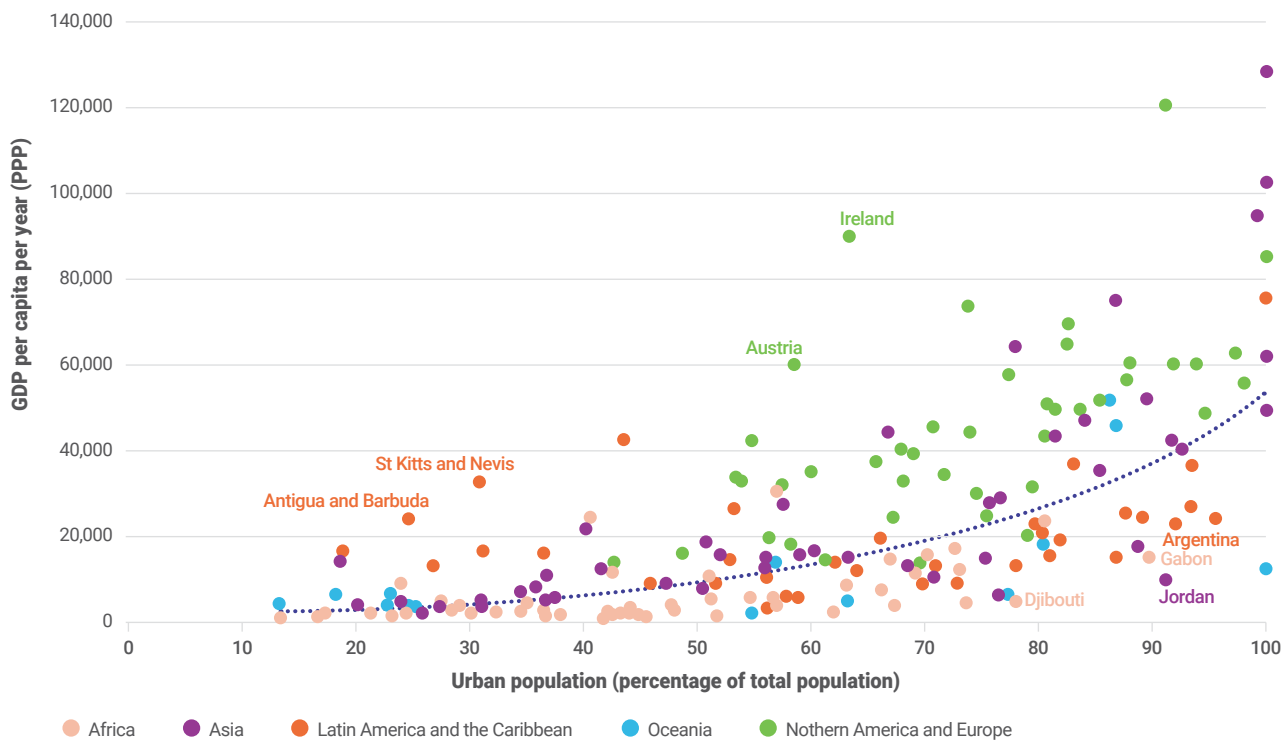
Source: Glaeser E L & Xiong W (2017)

Urbanisation Drives National Economic Development

Urbanisation is one of the most important forces driving the global and national economy. World Bank data shows that urbanisation is a very strong indicator of all aspects of productivity growth over the long run. It demonstrates the strong positive co-relationship between urbanisation and economic development. The higher the level of urbanisation in a country, the higher its GDP per capita. This trend is more obvious for countries with GDP per capita below USD10,000. Very few countries have reached income levels of USD10,000 before reaching about 60 percent urbanisation level (see Figure 9). Countries with a degree of urbanisation above 60 percent are expected to achieve 50 percent more Millennial Development Goals than those with a degree of urbanisation of 40 percent or less. No country has moved to a high-income status without urbanizing, and urbanisation rates above 70 percent are typically found in high income countries³⁰.

The concentration of the world's population in cities is accelerating. The world is now becoming a planet of cities. The forces driving this agglomeration of people and resources are mainly due to the positive effects of urbanisation, particularly on economic development.

Figure 9: Urbanisation and GDP per capita across countries in 2023



Source: World Bank

The main reasons for the positive effects of cities on economic development can be attributed to the following factors: (1) cities as locations of concentrated economic activities offer large and more diversified labour pools and are in closer proximity to customers and suppliers; (2) cities offer increased opportunities for division of labour and make intra-industry specialization more likely; (3) firms may not only profit from horizontal and vertical spillovers, but are also able to respond to market demand changes more effectively; (4) relatively cheaper transport combines with the proximity to customers and supplier help to reduce the costs of doing business; (5) by aggregating educated and creative people in one place, cities incubate new ideas and technologies and may lead

to efficient growth by potentiating the full social returns to increased human capital³¹.

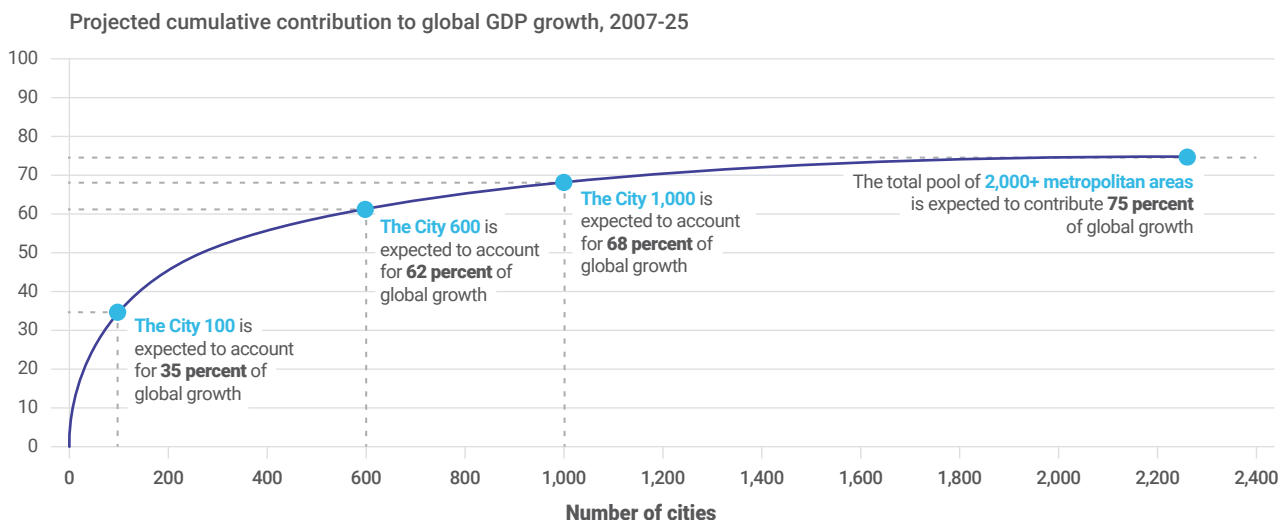
Cities are also centres of knowledge, innovation and specialization of production and services. Cities facilitate creative thinking and innovation. High concentration of people in cities generates more opportunities for interaction and communication, promoting creative thinking, creates knowledge spillovers and develops new ideas and technologies. Cities provide more opportunities for learning and sharing. Cities are the agents of social, cultural, economic, technologic and political changes and advancement³².

Cities Have Higher Productivity than Rural Areas

These advantages mentioned above make cities more productive than in rural areas. Urbanisation continues to be the driving force of national economies. Cities generate disproportionately higher rate of economic

growth than rural areas. They generate more than 80 percent of global GDP today. Of which the top 100 largest cities account for 35 percent of global GDP; the top 600 cities are expected to generate 62 percent of global GDP; the top 1,000 cities accounts for 68 percent of global GDP and the top 2,000 accounts for 75 percent of global GDP (Figure 10).

Figure 10: Economic Contributions of Top 2,000 Cities

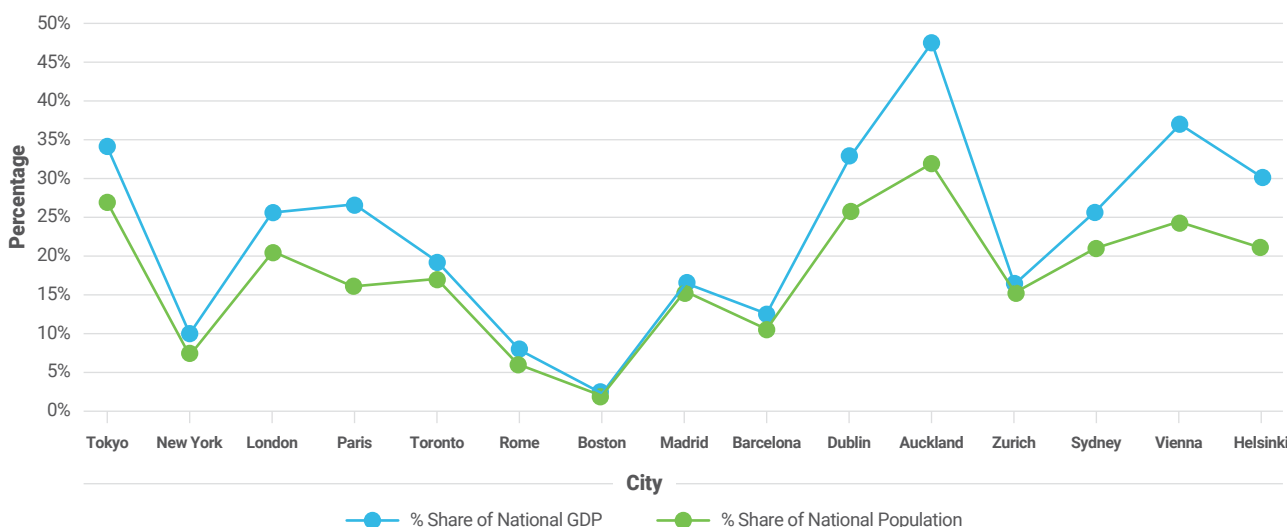


Source: McKinsey

In developed countries, statistics show that cities have higher productivity per capita than rural areas. For example, Tokyo with 26.8 percent of the national population, produced 34.1 percent of national GDP. London has 20.3 percent of population and accounts for 25.4 percent of the national GDP. Paris, with 16.2

percent of national population, accounts for 26.5 percent of national GDP. Dublin with 25.9 percent of population generates 32.8 percent of national GDP. Auckland, Vienna and Helsinki generate about 50 percent higher of GDP than their respective population share (Figure 11)³³.

Figure 11: Share of National Population and GDP in Key Cities in Developed Countries in 2008

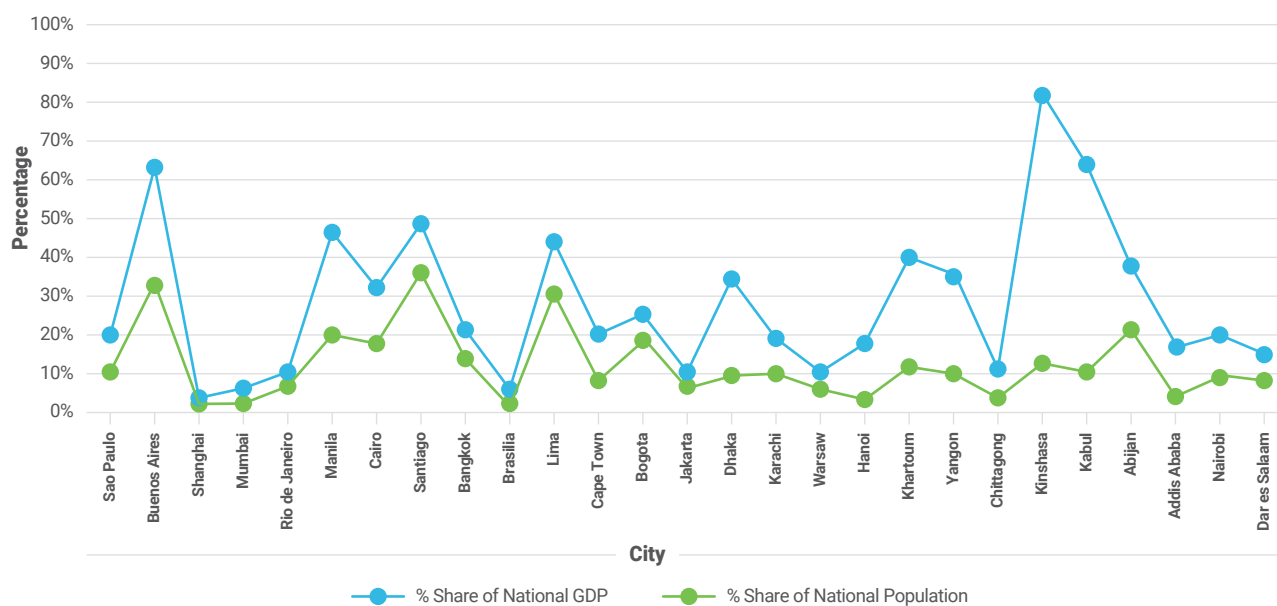


Source: Authors, based on data from national statistics, IMF, World Bank, and UN-Habitat

The central role of cities in national economies is more significant in developing countries than in developed countries. For example, Sao Paulo has 10.5 percent of population and generates 19.5 percent of GDP. Shanghai, with a 1.2 percent of population generates 2.9 percent of GDP. Buenos Aires, with a 32.5 percent of population produces 63.2 percent of GDP. Mumbai, with 2 percent of population, accounts for 6.3 percent of GDP. Nairobi, with 9 percent of population, generates 20 percent of GDP, Dar es Salaam, with 7.9 percent of population, accounts for 14.9 percent of GDP. In Shanghai, Manila, Brasilia, Cape

Town, Karachi and Nairobi, cities generate more than 100 percent higher GDP than their population share. In Dhaka, Yangon, Chittagong, Khartoum, Mumbai, cities generate more than 200 percent higher GDP than their population share. In Addis Ababa, it generates more than 360 percent higher GDP than its population share. In Hanoi, it produces more than 460 percent higher GDP than its population share. In Kinshasha and Kabul, cities generate more than 500 percent higher GDP than their population share (Figure 12). Estimates of the contribution of cities to total GDP in India range from 60 percent to 80 percent^{34 35}.

Figure 12: Share of National Population and GDP in Key Cities in Developing Countries in 2008



Source: Authors, based on data from national statistics, IMF, World Bank, and UN-Habitat

The higher productivity of cities is rapidly transforming the economic power of nations, particularly emerging economies. The 90 largest Chinese urban areas account for over USD 6 trillion in GDP – the size of the national economies of Germany and France combined. Cities in India accommodate one third of the population but generate two thirds of national GDP, 90 percent of total tax revenues, and the majority of jobs³⁶.

The highest economic growth of the top most economically powerful cities will be in developing countries. Developing countries are playing increasingly important roles in urbanisation and global economic growth (Table 1)

Table 1: Top 25 Most Economic Powerful Cities in the World by 2025

Cityscope 2025 city rankings

● Developing regions ● Developed regions

Rank	GDP	Per capita GDP	GDP growth	Total population	Children	Total households	Households with annual income over \$20,000
1	New York	Oslo	Shanghai	Tokyo	Kinshasa	Tokyo	Tokyo
2	Tokyo	Doha	Beijing	Mumbai	Karachi	Shanghai	New York
3	Shanghai	Bergen	New York	Shanghai	Dhaka	Beijing	London
4	London	Macau	Tianjing	Beijing	Mumbai	Sao Paulo	Shanghai
5	Beijing	Trondheim	Chongqing	Delhi	Kolkata	Chongqing	Beijing
6	Los Angeles	Bridgeport	Shenzhen	Kolkata	Lagos	New York	Paris
7	Paris	Hwasong	Guangzhou	Dhaka	Delhi	London	Rhein-Ruhr
8	Chicago	Asan	Nanjing	Sao Paulo	Mexico City	Mumbai	Osaka
9	Rhein-Ruhr	San Jose	Hangzhou	Mexico City	New York	Delhi	Moscow
10	Shenzhen	Yosu	Chengdu	New York	Manila	Mexico City	Mexico City
11	Tianjing	Calgary	Wuhan	Chongqing	Tokyo	Rhein-Ruhr	Los Angeles
12	Dallas	Al-Ayn	London	Karachi	Cairo	Paris	Sao Paulo
13	Washington, D.C.	Edinburgh	Los Angeles	Kinshasa	Lahore	Kolkata	Seoul
14	Houston	Charlotte	Foshan	London	Sao Paulo	Lagos	Chicago
15	Sao Paulo	San Francisco	Taipei	Lagos	Kabul	Osaka	Milan
16	Moscow	Durham	Delhi	Cairo	Buenos Aires	Dhaka	Mumbai
17	Chongqing	Ulsan	Moscow	Manila	Luanda	Tianjin	Cairo
18	Randstad	Washington, D.C.	Singapore	Shenzhen	London	Shenzhen	Hong Kong
19	Guangzhou	Boston	Sao Paulo	Los Angeles	Los Angeles	Moscow	Taipei
20	Mexico City	Belfast	Tokyo	Buenos Aires	Colombo	Chengdu	Randstad
21	Osaka	New York	Shenyang	Rio de Janeiro	Baghdad	Cairo	Shenzhen
22	Philadelphia	Grande Vitoria	Xi'an	Tianjing	Shanghai	Rio de Janeiro	Istanbul
23	Boston	Canberra	Dongguan	Paris	Paris	Wuhan	Delhi
24	San Francisco	Seattle	Mumbai	Jakarta	Jakarta	Los Angeles	Buenos Aires
25	Hong Kong	Zurich	Hong Kong	Istanbul	Istanbul	Buenos Aires	Madrid

Source: McKinsey

Cities Serve as Nodes of Circuits of the Global Economy

There are global formations, such as electronic financial markets and firms that operate globally. But the key feature of the current era is a vast number of highly particular global circuits that crisscross the world connecting specific groups of economic activities. Together these circuits began to function as an infrastructure for globalization, in which cities increasingly serve as the nodes of global networks. For instance, Mumbai is today part of a global circuit for real-estate development that includes investors from cities as diverse as London and Bogotá. Coffee is mostly produced in Brazil, Kenya, and Indonesia, but the main trading place for futures on coffee is New York. Specialized circuits in gold, coffee, oil, and other commodities involve particular cities, which will vary depending on whether they are production circuits, trading circuits, or financial circuits.

New York, London and Hong Kong are the biggest financial centres in the world³⁷.

Three kinds of cities are driving the circuits of the global economy: global hubs, mega-cities, and gateway cities. Global hubs are also global capitals, the top nodes of the world economy into and out of which much of the world's wealth and talent flows, for example, New York, London, Hong Kong and Tokyo. Then there are the mega-cities, hugely populous magnets not just in their countries but sometimes for entire regions: São Paulo, Lagos, Cairo, Istanbul, Mumbai, Jakarta, and Guangzhou. Mega-cities are so large that many, if not most, of their inhabitants born, live and die within their borders. Gateway cities are a crucial new layer of global economy in a fast-growing world. They are regional clusters that facilitate access to frontier markets, for example, Cape Town, Dubai, Tripoli, Almaty, and Kuala Lumpur³⁸.

Under-investment in Infrastructure Causes Huge Economic and Social Costs

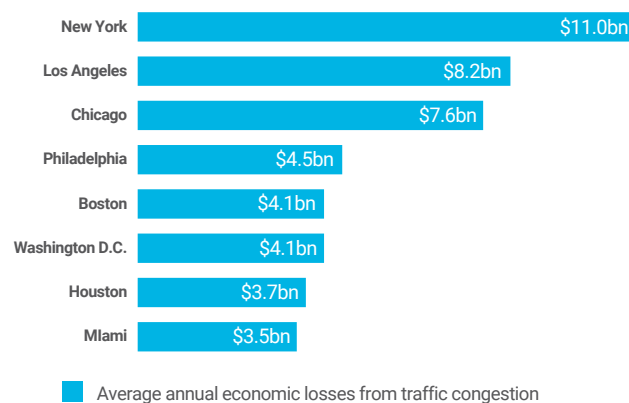
Infrastructure investment can contribute significantly to economic growth. Investments in energy, telecommunications, and transport networks directly impact growth, as all types of infrastructure represent an essential input in any production of goods and services. At the macro level, infrastructure investment can contribute to economic growth directly as an input factor, and indirectly by increasing the total factor productivity through its scale and network effects. At the micro level, infrastructure investment can help improve enterprises' technical efficiency by reducing their operating and inventory cost³⁹. It reduces the cost of delivered goods, facilitate the physical mobility of people and products, remove productivity constraints, and increase competitiveness⁴⁰.

Under-investment in infrastructure and services can cause huge economic and social costs. Lack of investment in infrastructure and investment preference in certain types of infrastructure can contribute to traffic congestion, which in turn leads to growing economic and social costs. It is not only the investment but also the type of investments that matter together with the nature of urban planning and policies, e.g., compact and mixed use as opposed to dispersed urban development patterns. Investments in superhighways, and transport infrastructure which favour private cars, can lead to ever-increasing congestion. Inappropriate non-compact urban planning based on rationale of private car use and lack of investment in decent public transport integrated with better facilities for walking and cycling tends to give rise to increasing levels of greater car dependence and increasing traffic congestion⁴¹.

The costs of lost time and increased transport costs are estimated at 2–5% of GDP in developing countries in Asia and Latin America, as high as 3.4% of GDP in Buenos Aires, 2.6% in Mexico City, and 10% of city GDP in São Paulo. The social costs of urban transport in Beijing range between 7.5% and 15% of GDP⁴². Traffic

congestion causes USD 11 billion per year in New York, USD 8.2 billion in Los Angeles, and USD 7.6 billion in Chicago (Figure 13)

Figure 13: Congestion Costs in Selected USA Cities in 2019



Source: *forbes.com/*

According to World Bank, the total economic losses associated with inadequate water and sanitation services are estimated at USD260 billion annually, which is roughly equivalent to an average annual loss of 1.5% of global GDP⁴³.

Under-investment in environmental protection can cause health problems and economic loss. World Health Organization has considered air pollution as “the greatest environmental risk to health”. The main urban air pollutants are Ozone (O₃), Particulate Matter (PM₁₀, PM_{2.5}, Sulfur Oxides (SO_x), Nitrogen Oxides (NO_x), Carbon monoxide (CO) and Volatile Organic Compounds (VOCs). The US Environmental Protection Agency estimates that about 75% of VOC emissions (by weight) come from transportation. About one-quarter of particulate matter in the air is due to vehicles⁴⁴. Urban air pollution is projected to become the top environmental cause of premature mortality by 2050. Business as usual has resulted in 86% of these cities exceeding WHO air quality guidelines for outdoor air pollution and led to 730,000 premature deaths⁴⁵.

chapter

03

**The Challenges for
Financing Sustainable
Urban Development**

The challenge for cities in some developing countries is that municipal revenues are insufficient to meet the large and growing needs for public spending. At the same time, urban policymaking is often hampered by the lack of an enabling environment – a clear structure for decision making. Institutions often have overlapping and unclear mandates over decisions that affect the city, and in many cities existing institutional structures fail to adequately address cross-district urban issues⁴⁶.

Inadequate Development Pathways: Impacts of Neoliberalism on Urban Development

Neoliberalism advocates free markets and deregulation, which has shaped urban development and finance for several decades. Many developing countries are led by the global wave of neoliberalism. Neoliberalism advocates deregulated markets and less government intervention. Neoliberalism has a remarkable impact on national and local development policies and practices⁴⁷. As a result, many countries have led to a state where their markets are abnormal, market institutions are weak or underdeveloped, yet their governments are also weak. They cannot benefit from the free market approaches of development, nor do they have a strong government behind their pursuit of development goals. This leads to a state, where neither the market nor the government is functioning well⁴⁸.

Lack of Adequate Housing Investment

It is estimated that 28.25 million new housing units per year will be required to address the housing shortage. To meet the targets set by SDG11, the world needs to invest about USD 3 trillion to USD 4 trillion a year to achieve adequate housing for all. In addition, a substantial amount of funds will be needed for maintenance and improvement of the existing housing stock. Owing to rapid urbanisation, the gap in investments is growing. Further, social and demographic changes are leading to a greater demand for housing. People are living longer, and choosing to marry later, and in recent years there has been a rise in the number of single-parent families. The result is an ever-larger number of smaller households, all requiring accommodation. However, building new, affordable homes in urban areas is difficult. Land values are very high and suitable land is in short supply^{49, 50}. Increase in costs of construction, labour shortages, commodity price including, supply chain bottlenecks also contribute to the difficulty for the provision of affordable housing.

According to the estimate done by UN-HABITAT, there are about 830 million people living in slums in the world and considering another 2 billion additional increase of urban population by 2030, about 3 billion people or 40 percent of the world's population in 2030 will need new housing. According to a study of 130 countries by Pew Research Center in 2020⁵¹, the average household size in the world is 4.9 persons, while it is 6.9 persons in Sub-Sahara Africa, 6.2 persons in Middle East and North Africa, and 5 persons in Asia Pacific, and 4.6 persons in Latin

America and Caribbean, 3.3 persons in North America, 3.1 persons in Europe, 565 million new housing units will be needed⁵². If this number is broken down on an annual basis for the period 2011 to 2030, 28.25 million housing units per year will be required. This estimate means that 77,397 housing units per day or 3,234 per hour will need to be built. As the cost-of-living crisis in the global north and the expansion of informal settlements in the global south indicate, cities are hard pressed when raising adequate financial investments to meet this singular challenge. They are also constrained by urban poverty and lack of adequate financial resources at the city level in many developing countries^{53, 54}.

Shortage of Infrastructure Investment

There is a huge gap in infrastructure investment, not just in developing countries but throughout the world, including the most developed countries. According to UNDESA's estimate, the global infrastructure investment gap is USD 1.1 trillion to USD 1.5 trillion in developing countries⁵⁵. The infrastructure investment gap is around USD 180 billion a year for the Asia Pacific region, USD 24 billion a year for Latin America, and more than USD 93 billion a year for Africa. For fragile African states, more than 37 percent of GDP needs to be invested in infrastructure. OECD estimates that the global need for infrastructure investment ranges from USD30 trillion to USD 40 trillion in the next two decades^{56, 57}.

The infrastructure challenge facing the developing world is particularly severe. A large proportion of the population lacks access to basic infrastructure. The World Bank estimates that 1.1 billion people live without safe water supply, 1.6 billion people without electricity, 2.4 billion people without sanitation services and more than 1 billion people do not have access to basic roads^{58, 59}.

Shortage of Water and Sanitation Investment

According to World Bank, there is a financing gap for Water and Sanitation at around USD700 billion per year. The destructive human and economic impact of global pandemics (i.e., COVID 19, Ebola, SARS, H1N1, cholera) highlights the vulnerability of those that do not have access to safe water and hand-washing facilities. Investments in universal access to water and sanitation, in support of public health, can make a substantial difference and have a catalytic impact on other sectors. A lack of sufficient resources to meet sanitation targets is reported in all SDG regions. Quantitative data from 20 countries and territories reveal a water and sanitation funding gap of 61% between identified needs and available financing for water and sanitation⁶⁰.

Despite this huge potential, the water and sanitation sector suffers from the interlinked challenges of underinvestment and a poor performance record. Without the required ongoing investment, performance declines, undermining confidence in the sector's ability to deliver reliable services

Table 3 shows some South African cities' operating revenue year on year changes during Covid-19 pandemic over 4 quarters, using the previous year's similar periods as a benchmark. It exhibited poor revenue collection performance in most municipalities at the

end of 2019/2020-Q4. During this quarter, Emthanjeni municipality appears to have suffered significant shocks, achieving a negative performance of 40 percent. The poor performance was attributed to non-payment of property rates⁶⁶.

Table 3: Quarterly Operating Revenue impacted by COVID-19

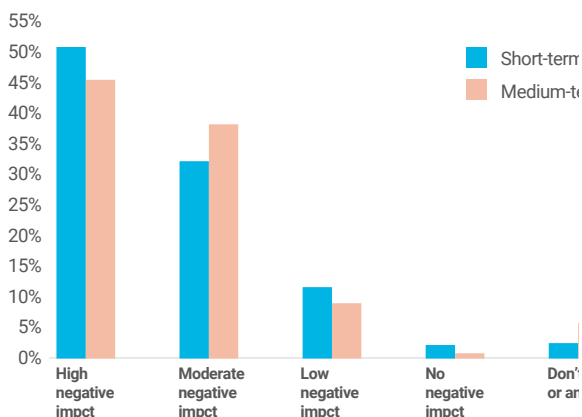
Quarterly operating revenues YoY changes of sampled municipalities

Municipality	Operating Revenue R'000 000'											
	Post-Pandemic				Pre-Pandemic				% Change YoY			
	2019/20-Q4	2020/21-Q1	2020/21-Q2	2020/21-Q3	2018/19-Q4	2019/20-Q1	2019/20-Q2	2019/20-Q3	2019/20-Q4	2020/21-Q1	2020/21-Q2	2020/21-Q3
Dawid Kruiper	117.2	166.2	192.8	174.3	129.0		164.0	174.1	(9%)		18%	0.1%
Emthanjeni	20.7	76.7	66.1	46.2	34.5	72.5	47.2	35.2	(40%)	6%	40%	31%
Hantam	12.8	28.0	11.5	14.2	11.8	26.1	14.4	15.0	(8%)	7%	(20%)	5%
Khai-Ma	6.2	23.9	12.1	7.9	6.8	22.2	14.0	11.6	(9%)	8%	(14%)	(32%)
Karoo Hoogland	6.8	19.1	17.4	14.7	7.8	5.8	40.8	9.6	(13%)	(229%)	(57%)	53%
Kareeberg	5.2	19.0	21.4	13.3	9.1	19.3	32.1	1	(4%)	(2%)	(33%)	1 581%

Source: <https://scholar.sun.ac.za/server/api/core/bitstreams/a0882df3-39a7-4008-80f0-e24a9e3600ce/content>

Over the short and medium terms, most local governments see that the socio-economic crisis linked to COVID-19 has a highly negative impact on their finances. In the short term, 51% of subnational entities estimate the impact on subnational finance to be highly negative, while one-third expect a moderately negative impact and a mere 2% forecast no negative spillovers. In the medium term, subnational entities still expect the impact to be highly negative (46%) or moderately so (39%). Overall, around 85% of respondents see the impact as highly and moderately negative in the short and medium terms. About one-half of respondents from regions expect a highly negative impact in the short and medium terms, whereas municipal respondents are slightly more likely to expect a highly negative impact in the short term (54%) rather than in the medium term (49%)⁶⁷ (Figure 15).

Figure 15: Impact of COVID-19 on subnational finance



Source: OECD

Many Asian developing countries saw budget deficits in 2020, due to a significant drop in government income, combined with soaring costs to deal with the health and economic fallout from the pandemic. The sharp contraction in fiscal revenue due to the pandemic means many countries cannot rely solely on public money when funding economic and social recovery⁶⁸.

Barriers to Financing Sustainable Urban Infrastructure Development

Urban infrastructure projects play a very role in promoting city economy and have high impacts on sustainability. Urban infrastructure projects have a range of inherent characteristics, based on their long-term nature and high upfront capital requirements, which typically deter investment from private investors. These factors significantly increase the risks to potential investors, due to limited liquidity of infrastructure assets and long pay-off periods. This prevents the scaling up of capital into urban infrastructure from other asset classes. Certain classes of sustainable urban infrastructure projects can have even longer timelines and require even larger amounts of capital in the initial stages. This hinders the shift of capital into sustainable urban infrastructure⁶⁹.

Most urban infrastructure investments suffer from a range of market and institutional failures which impede the capacity of countries and cities to mobilise adequate financing for urban infrastructure. This contributes to a lack of bankable projects likely to deliver appropriate risk-adjusted returns⁷⁰.

Market Failures

Urban infrastructure development projects are potentially profitable in the long term and have significant benefits to the economy and society. However, they are subject to a range of market failures, which leads to a significant undersupply of capital and become the basis for government intervention, and public investment. The market fails to perform well due to the following reasons:

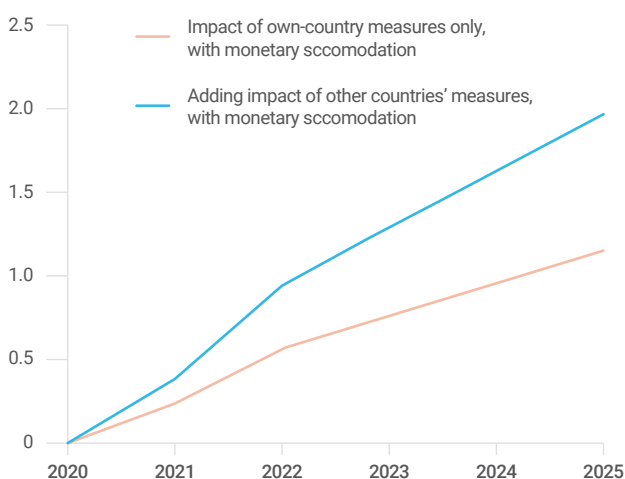
Externalities: Urban Infrastructure, particularly sustainable urban infrastructure, has significant positive externalities for the economy, including positive impacts on growth and equality, which cannot be wholly appropriated and taken into account by private sector investors, thus reducing their risk–reward profile. Better public transport infrastructure has a positive impact on a city’s competitiveness and attractiveness while reducing congestion, air pollution, and carbon emissions. An IMF study shows that infrastructure investment push could stimulate growth. Public infrastructure investment could help lift growth domestically and abroad through trade linkages. This positive “spillover” effect could provide an additional boost to global output. To increase infrastructure investment spending by 0.5 percent of GDP can raise 1 percent of GDP. Countries with less fiscal space spend about one third of that amount over the same period, global output could increase by close to 2 percent by 2025. About a third of that impact would come from cross-border spillovers (Figure 16)⁷¹.

Figure 16: Infrastructure Investment Boosts Economic Growth

A synchronized approach

Global GDP could rise by nearly 2 percent if countries simultaneously invested in high-quality infrastructure improvements

(percentage deviation from baseline)



Source: IMF

A standard deviation improvement in the quantity and quality of a country’s infrastructure has the potential to reduce a country’s inequality. On the other hand, the range of negative externalities associated with unsustainable urban infrastructure are hardly considered in their costing, encouraging oversupply. For example, the cost of externalities (such as air pollution) associated with the use of private vehicles are often not priced into the private vehicles’ prices, which lead to the oversupply or overuse of private vehicles⁷².

Economies of Scale: Cost efficiency often calls for larger-size infrastructure facilities. Therefore, often one or a few facilities may be needed to serve a given urban market, particularly for those operating in a concentrated geographic area. Economies of scale make it impossible for a competitive market to provide many infrastructure services. This leads to another type of “market failure” problem, i.e., the competitive markets’ inability to encompass the characteristics of infrastructure facilities⁷³. Therefore, the market price mechanism does not work well and fails to reach an efficient allocation of resources⁷⁴.

Natural monopoly: Due to the scale and complexity of some urban infrastructure, it is often less efficient or cost-effective to involve multiple actors. This can lead to abuse of monopoly power and entrenched vested interests, due to limited competition for the provision and maintenance of such urban infrastructure. In the absence of effective regulatory frameworks, this can lead to chronic underinvestment. Public transport is a sector often subject to monopoly service provision, and effective regulatory and enabling environment can help to improve the flow of investment into the urban infrastructure sector⁷⁵. Utilities often involve high start-up costs and require expensive infrastructure investment. Natural monopolies for utilities such as energy, water and sewage are often maintained by governments. For example, the provision of water, sewage, networked gas, electricity, and waste services in the city of Medellin was basically under the monopoly of EPM company which is owned by the city government (see Box 1).

Imperfect information: Asymmetric information often occurs for urban infrastructure development, where the government in a market transaction has more information than the investor. This may result in the misallocation of resources due to insufficient technical and financial knowledge on the development and operation of infrastructure on the part of city government⁷⁶.

There is often a lack of data on the financial and risk performance of long-term urban infrastructure projects making the investment evaluation process problematic and deterring potential investments. It is

even more difficult to evaluate the economic, social, and environmental costs and benefits of sustainable urban infrastructure. The absence of long-term urban planning and uncertainty related to future regulatory policies can further complicate the issue, particularly for sustainable urban infrastructure that is subject to a range of policies such as energy or climate policies. Furthermore, there is often limited knowledge on available clean technologies and their potential advancement in developing countries. Therefore, it is often difficult to incorporate potential technological efficiencies in financial and economic analysis and the costing process⁷⁷.

Public goods: Urban infrastructure often provides basic services to urban residents, such as transport, water, and electricity supply. Those who benefit from urban infrastructure may have a limited ability to pay for infrastructure, and it can often be challenging to charge users enough to allow for a full cost recovery because users are unwilling or unable to pay for the utility, particularly in developing countries. In some sub-Saharan countries, for example, up to 70% of water is unmetered, generating no revenue at all⁷⁸. Access to public goods is often indiscriminating to everyone, which prevents to effectively charge the users for their access or use. For example, the public streets, street lighting.

Institutional Failures

When a market fails it is often caused by failures in the regulatory and institutional arrangements that support the market. The institutional failures can be attributed to the following factors:

Lack of regulatory consistency and certainty: There is often significant uncertainty when investing in cities. This can relate to the lack of consistent standards for urban infrastructure projects, the lack of viable financing models to pay back upfront capital costs, the lack of transparency in municipal operations, and the lack of clear investment regulations, policies and legal frameworks⁷⁹.

City governments with weak capacities often fail to provide consistent standards for investment procurement processes related to urban infrastructure projects. It is common for each individual project to have its own tailored bidding process and transactions, and red tape in the process. Such fragmented approaches potentially discourage investment as it is more time and resource-consuming for investors to assess projects. Furthermore, local governments often do not have consistent sustainability standards, such as energy efficiency standards for buildings or climate resilience standards for other types of critical urban infrastructure⁸⁰.

A lack of transparency in expenditure or project management in city governments can increase the risks of investment significantly, and thus potentially deter direct investment as well as the development of

creditworthiness. Investors can feel uncertain working with city governments, because it is difficult for them to monitor cash flow and project progress, thus creating uncertainty related to the expropriation and full recovery of their initial investment. The limited availability of useful and reliable information from city governments, and sometimes the ad hoc manner of operations, makes it difficult to value a city's creditworthiness, impeding access to credit markets for borrowing to finance urban infrastructure. These kinds of challenges can be bigger when cities are smaller⁸¹.

Unstable regulations and policies (sometimes, lack of regulations and policies) on investment and taxes may also deter investments. For example, uncertain tax policies, particularly in emerging economies and developing countries, related to emission taxes, energy efficiency incentives, and fossil fuel subsidies, and etc. are often short term, and unpredictable in the longer term, significantly impacting the economics of a project⁸².

Weak Financial and Technical Capacity of Cities

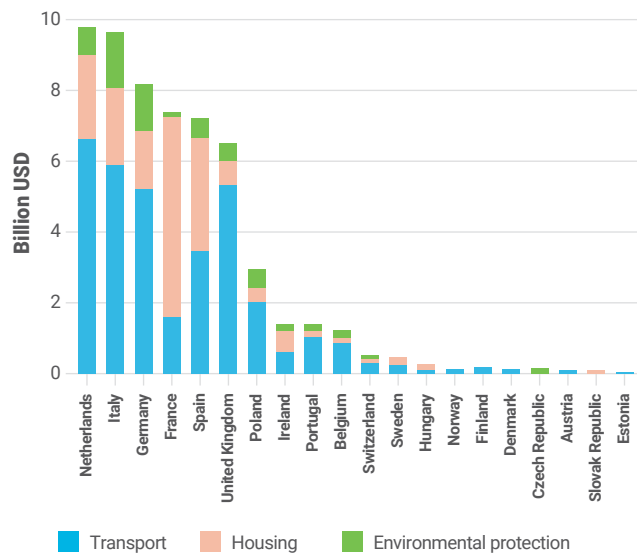
As illustrated earlier, the contribution of cities to national economic growth is very significant in developing countries. The economic future of developing countries is dependent on the urbanisation process. Cities generate wealth much faster than villages and rural areas. However, cities are seriously under-resourced to fulfil their potential as drivers of national economic development and prosperity. Even in developed countries, many cities lack financial resources for key municipal functions such as environmental protection, housing, and transportation, particularly in small and median-sized cities (see Figure 17).

Cities face many challenges, from accelerating growth, influx of massive rural migrants, deteriorating infrastructure to environmental degradation, social exclusion, violence, under-investment, lack of fiscal freedom and policy choices. Municipal governments often lack financial means to address the vast challenges facing them. For example, of the total government revenues in Canada, the federal government receives 39 percent; provincial governments receive 50 percent and municipal governments only gets 11 percent⁸³. Municipal governments in most countries have less than a quarter of total government revenue. In many countries such as Afghanistan, Armenia, Australia, Chile, Cyprus, El Salvador, Greece, Honduras, Iran, Jordan, Lesotho, Malta, Mauritius, Mongolia, Morocco and Paraguay, municipal governments are allocated less than 10 percent of the government revenues (Figure 18). The international development community also ignores the need of cities. For example, the total urban assistance to developing countries from 1970 to 2000 was about USD 60 billion, about USD 20 per capita. With less than USD 1 dollar per capita per year, one can hardly achieve anything meaningfully in terms of urban development⁸⁴.

Globally, the own source revenue generation capacity in cities in low-income countries are the weakest. Low middle income countries also have challenges in raising own source revenue by their local governments. The average annual own source revenue by local governments is USD 12 in low income countries, USD 45 in low middle income countries, USD 267 in middle income countries, and USD 2,944 in high income countries (Figure 19). In some cities, the revenue raised is not even enough to pay the salaries to those who collect the revenue⁸⁵.

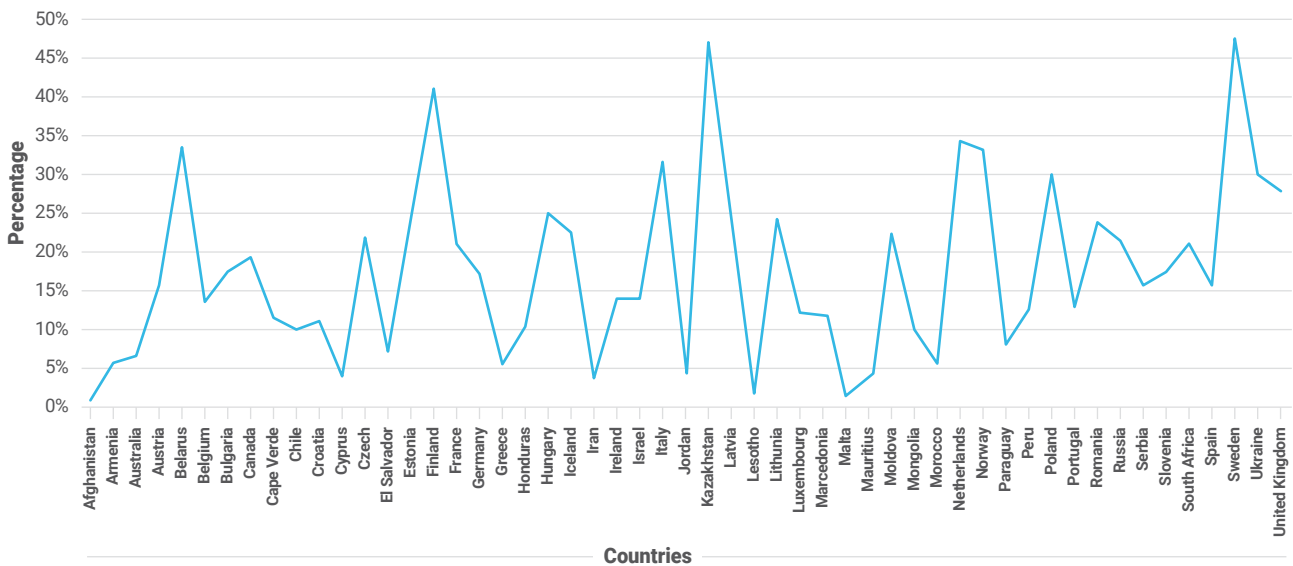
The technical and financial management capacities in cities in developing countries, particularly in low-income countries are also weak. Many small (and even median-sized) cities in low-income countries do not have adequate expertise to design and execute investment projects⁸⁶.

Figure 17: Gross Capital Formation in Urban Areas in selected OECD countries



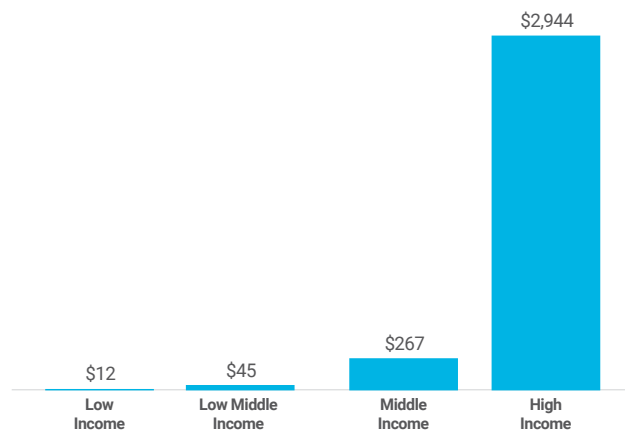
Source: OECD

Figure 18: Local Governments' Share of Total Government Revenue in 2008



Source: Authors, based on data from national statistics, IMF, and World Bank, UN-Habitat

Figure 19: Own Source Revenue by Local Governments in Different Categories of Countries



Source: Authors based on data from OECD and UCLG

Local governments in developing countries, particularly in small and median-sized cities in low income and low middle income countries, often lack capacities and expertise related to urban infrastructure development planning and financing. They often fail to set out long-term urban development plans, develop clear feasible pipelines, secure financing commitments and sufficient guarantees, or manage infrastructure projects effectively. The lack of technical and financial capacity and expertise is particularly obvious in small and median-sized cities in Sub-Saharan Africa and South Asia and small island countries. These limitations hinder the process of raising revenues for urban infrastructure projects from both private investors and public sector sources. Even if city governments successfully attract investment from the private sector, the deals may not be structured in the most appropriate way, combining both the best value for the city and acceptable risks for investors. This is largely due to the lack of skills in investment facilitation and capacities to develop and negotiate effective contracts, at the local level in developing countries. Moreover, there is even more limited expertise and experience in planning, designing, and incorporating environmental and economic sustainability consideration into urban infrastructure projects, placing a premium on some level of standardisation where possible for environmentally and socially sensible projects. Lack of synergy between local and national legislation on sustainable urban infrastructure and limited autonomy of local governments further bring challenges to raising adequate financing for sustainable urban infrastructure development⁸⁷.

Private investors often do not have expertise in or experience of financing or lending at the municipal level. They are often not familiar with local policies and business environments, especially where related to sustainable urban infrastructure. This could increase potential risks, thus requiring them to perform extra due diligence, to expect higher returns which could further increase project costs. Red tape in local governments can further delay the process of implementation and causes additional expenses. Small projects can have a lot of transaction costs. Moreover, the lack of responsible investment codes or mandatory obligations to disclose the climate impact and environmental impact performance of infrastructure projects can create a lot of hesitancy in private investors when considering sustainable urban infrastructure projects at the city level⁸⁸.

Lack of an Effective and Financially Viable Process of Sustainable Urban Development

Many countries lack an effective and financially viable process for sustainable urban development. Whilst some have local government initiatives that aim to strengthen the financial performance of local governments, the programmes offered tend to be very focused on building individual capacities. Very little is invested to build an effective and financially viable process for sustainable urban development. Many developing countries lack support both national and local institutions to implement sustainable urban development⁸⁹.

chapter

04

**Diversification of
Funding Sources and
Innovative Instruments
for Enhancing
Sustainable Urban
Development Finance**

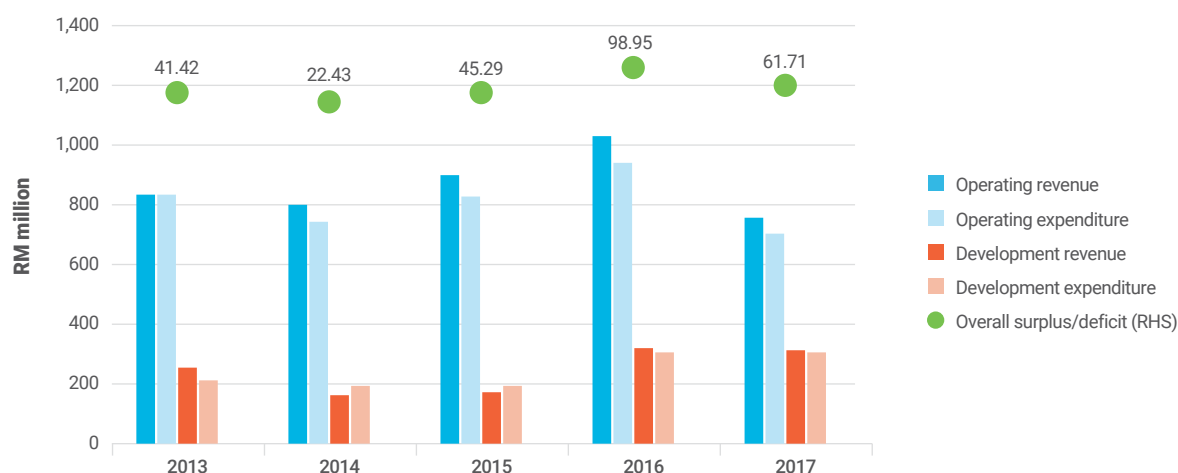
The diversification of funding sources and innovative financing instruments are two cornerstones for financing and delivering sustainable urban development.

Own-source Revenues

In the wake of recent decentralisation efforts in many developing countries, local governments in general, and city governments in particular, have often ended up with expanded expenditure responsibilities and functional responsibilities. However, these additional responsibilities are not matched with sufficient increases in budgetary allocation or even with increased revenue collection authority. Even in the best cases, owing to capacity challenges, city governments have not effectively used the revenue authority that they were given. Improving local revenue authority and effective employment of such authority is therefore a major priority of development agencies. Specifically, it calls for the empowerment of city governments to raise their own resources to make decentralisation meaningful and effective. It is

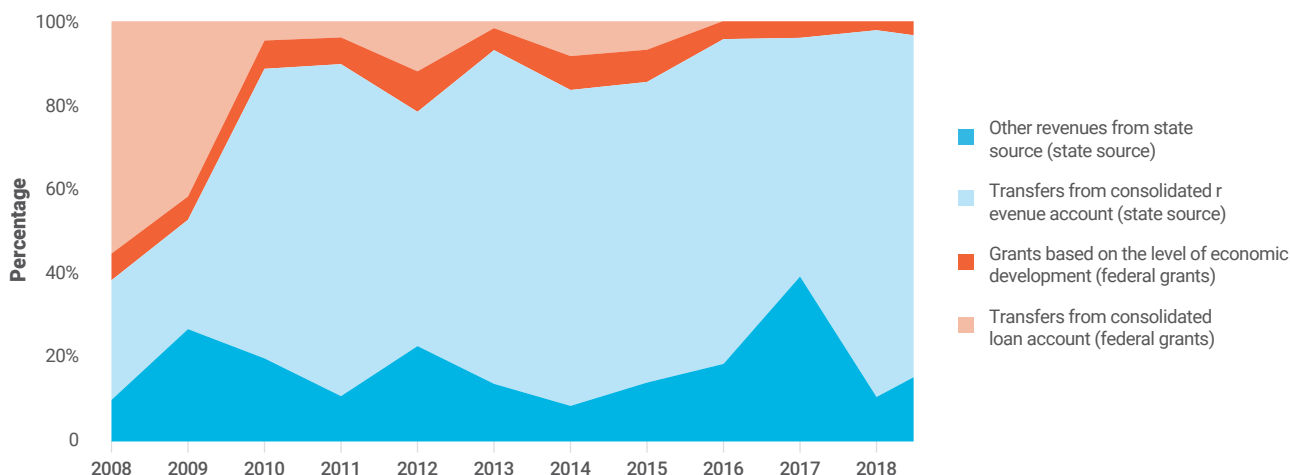
a win-win situation. Effective city authorities will be empowered to implement the national development policies or plans. Improved urban revenue-generation capacity and incentives leads to improvements which is reflected in better cadastral services and municipal finance databases. This in turn creates efficiencies in the deployment of urban assets (such as land) and lowers the cost of doing business. It also improves transparency, strengthens cost recovery instruments, which forms the basis to attract capital and further investments to improve urban services. Seberang Perai Municipality and Penang State in Malaysia are among good examples to raise revenue to achieve a healthy financial state at the local level⁹⁰. For example, from 2013 to 2017, Penang state achieved an overall surplus (Figure 20). In 2018, Penang state's own source revenue (671.46 RM million) accounted for more than 98% of its total development revenue, while the central government's grants (13.52 RM million) only accounted for less than 2%⁹¹. Figure 21 shows the expansion of state own source revenue in its development revenue share in Penang state.

Figure 20: Financial Performance in Penang State, Malaysia



Source: Penang Institute

Figure 21: The Expansion of Own Source Revenue in its Development Revenue Share in Penang State

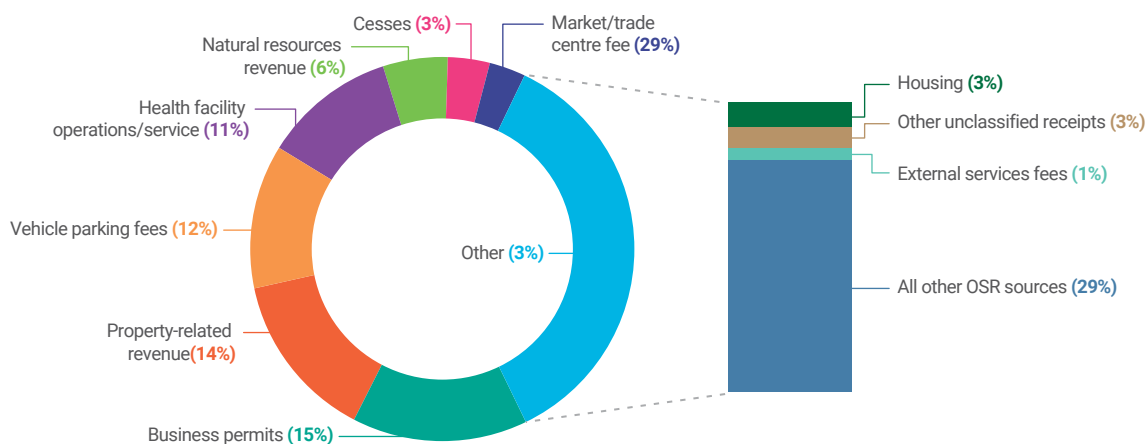


Source: Penang Institute

City governments often generate own source revenues by two main forms: (1) local taxes, and (2) user fees and charges. Some cities focus on local taxes while others

may focus on user fees and charges. For example, Nairobi city's own source revenue focuses on fees and charges (Figure 22).

Figure 22: Key Sources of Own Source Revenue in Nairobi



Source: Nairobi City Council

However, own source revenue is very low in many developing countries, for example, less than 10% in some least developing countries. On global average, cities in low-income countries can only generate USD12 per capita per year on their own source revenue. Some cities even raise less than half a dollar per capita per year. The potential to grow own source revenue is significant. In South Africa, own source revenues for municipalities reached 72% in 2018.

Another own source revenue generation is through the appropriation of profits of local government-owned enterprises. South Africa and Colombia use local

government owned utilities companies to enhance own source revenue in their cities. For example, the city of Medellín in Colombia used Empresas Públicas de Medellín E.S.P (EPM) to generate city revenue. EPM not only provides water, sewage, networked gas, electricity, and waste services to the municipalities in the department of Antioquia, benefiting more than 3.6 million users, with its own funding, but also part of the company's profits is handed over to the city government, which accounts for 24% of the city's budget. It plays a significant role in financing sustainable urban development in the city of Medellín (see Box 1).

Box 1: Own Source Revenue Generation through Appropriation of Profits from Local Government Owned Enterprise

The EPM Case in Medellín, Colombia

Empresas Públicas de Medellín E.S.P (EPM) is a state-owned company, established in 1955. It is 100% owned by the municipality of Medellín in Colombia. The EPM case is a good example where a city generates own source revenue beyond the conventional means such as local taxes, user fees and charges.

EPM performs several urban services functions for the city of Medellín and beyond. Fully on its own costs, EPM currently provides water, sewage, networked gas, electricity, and waste services to the municipalities in the department of Antioquia, directly benefiting more than 3.6 million users. EPM has also managed to expand its business in the LAC region, making investments in Colombia, Central America, Mexico, and Chile.

EPM plays a significant role in boosting Medellín's urban finance. Following the decentralized structure of Colombia's fiscal regime, EPM's profits serve as an important source of revenue to finance the Medellín's budget. In 2022, it constituted 24% of the city's total budget.

In accordance with local regulations, this is achieved through annual ordinary and extraordinary transfers. Ordinarily, EPM transfers up to 30% of its profits to Medellín city government. In exceptional circumstances, there can be additional transfers if required by the City Government. However, this can only be done without endangering the enterprise's solvency or its expansion plans for the medium and long term. The budget must be allocated to social investment projects and the payment of the city's public lighting.

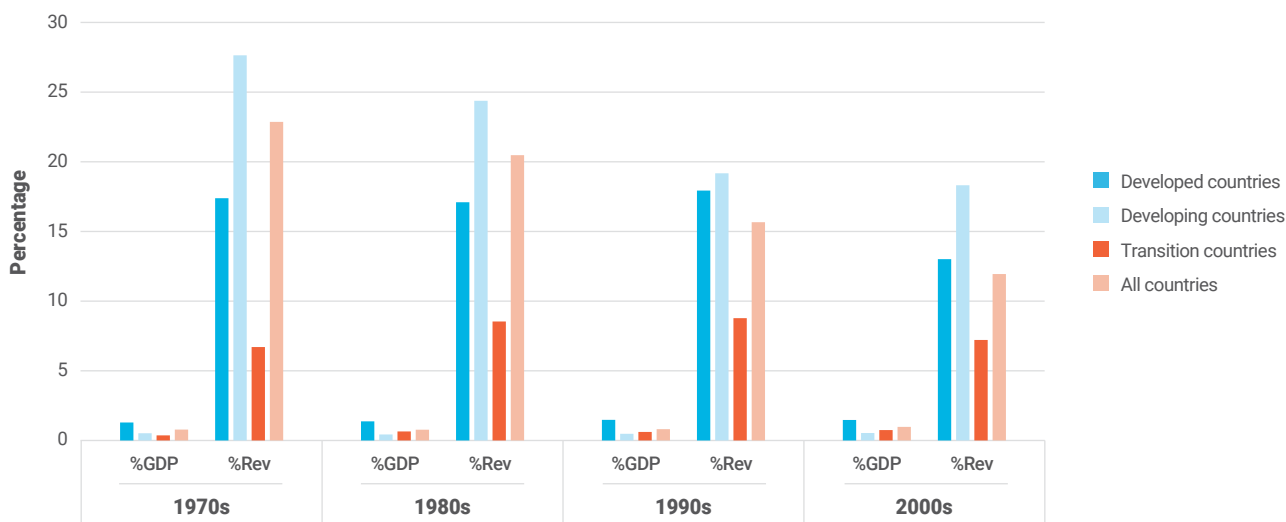
Source: EPM

Local Taxes

This form of own source revenue is made of property taxes, business taxes, local income taxes and sales taxes. Cities in developing countries are generally more reliant on property taxes than developed countries (as a share

of local revenues). However, developing countries have still higher potential to increase the local revenue, since as a share of GDP, property tax is still much lower than developed countries (Figure 23).

Figure 23: Local Property Tax as Share of GDP and Local Revenue



Source: DFID

Resources derived from Land Value Capture

Land value capture is an important and innovative alternative for generating local revenue to finance urban infrastructure. It is through the capture of land value generated by public interventions or policies. Land value capture involves partially or fully taking the increase of land value generated by measures or interventions external to the private owners of land.

Cities can capture value which are generated by public policies and interventions through mechanisms such as land value taxation, betterment levies, land pooling and readjustment, sale of development rights, tax increment financing, revenue sharing, profit sharing, refinancing gain

share, user fees, and impact fees. Land value capture is widely used to finance urban infrastructure and services in developed countries and middle and upper middle income developing countries such as USA, UK, China, Brazil, and Malaysia. The São Paulo city government generated a revenue of BRL 2.9 billion (USD 806 million) through land value capture in Água Espraiada Joint Urban Operation between 2004 to 2012. The Água Espraiada Urban Operations project in Sao Paulo city, Brazil to use development rights to capture land value (see Box 2). Land value capture is the key funding mechanism of local infrastructure in China, accounting for more than half of the city revenues.

Box 2: Land Value Capture Initiative: Água Espraiada Joint Urban Operation, São Paulo City, Brazil

Introduction

Land value capture was first introduced into Brazil's 1988 Constitution and was enforced through the Urban Development Act or City Statute in 2001. São Paulo city introduced the first official land value capture mechanism based its 2002 Strategic Master Plan and its 2004 Land Use Law on the federal City Statute - Charges for Additional Building Rights. This tool enabled the city government to generate revenue by charging developers for new building rights.

Approach

The land value capture mechanism in Sao Paulo is implemented through the use of the Certificates of Additional Construction Potential (CEPACs) - a type of charges issued by the city government and sold in auctions in the stock market. Under the federal City Statute enacted in 2001, CEPACs emerged as a financing mechanism for local Joint Urban Operation projects, which focus on interventions that improve social and environmental conditions in a defined urban area and are implemented jointly by public officials, private landowners and investors. These projects allow for special zoning and building rules in the defined area, including the sale of higher floor area ratios (FARs) in the purchasing of CEPACs.

Land value is captured from CEPACs through changes in zoning (to change uses or increase FARs) that increase the profitability of the developers. Value capture from increased land value or profits provide revenue needed for the city to implement public projects.

With the government interventions, the value of land tends to rise and, by issuing new CEPACs, the city may capture not only land value increases from changes in zoning, but may also partially re-cover the upfront investments in the land. In this way, CEPACs are based on both the initial cost of land plus the projected value of the land parcel based on the sale of FARs. Revenue obtained through the sale of CEPACs goes to a specific Urban Operation Fund that can only be invested in the predetermined projects proposed in the defined area. These areas are chosen by the city government based on prospective analysis that determines where real estate development is most needed. The owner of a CEPAC can either convert the charge into additional building rights in the project area or can resell it in the stock market. Because the CEPACs are a security, they are subject to regulation and monitoring by the Brazilian Securities and Exchange Commission, ensuring transparency in the CE-PAC sale process and in the building of infrastructure in the project area.

Results

The Água Espraiada Urban Operation project used Land Value Capture to finance the solutions to the informal housing and drainage problems in the area with nearly 1,400 hectares.

The city government generated a revenue of BRL 2.9 billion (equivalent to USD 806 million) through the sale of the 3.4 million CEPACs in auctions between 2004 to 2012, which is used to finance the construction of two cable-stayed bridges connecting both sides of Pinheiros River and 6 social housing buildings and other public projects such as parks, public schools and healthcare centers. Since the land value capture mechanism was introduced in Sao Paulo, city revenues have increased annually. It generated net revenue of more than USD1 billion from 2 of the city's 13 Urban Operations.

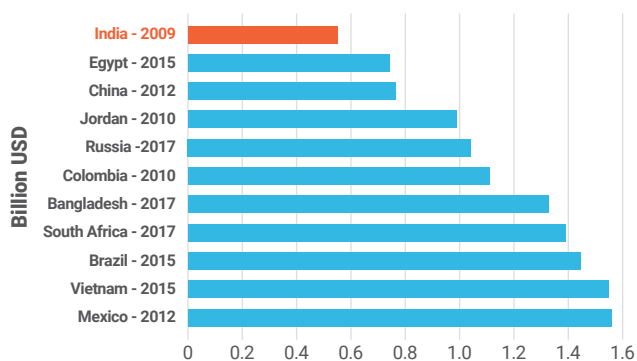
Source: Authors based on A. Sorensen and J. Okata and Lincoln Institute of Land Policy

Value can also be captured through indirect value capture such as zoning change or joint projects or leasing air rights above the property or swapping a piece of public land that a developer wants for a piece of privately owned property or leveraging public assets. There are several reasons which cause land value capture not optimized or well-utilised, for example fragmented land ownership, inertia to relocate industry in inner city locations.

Use Fees and Charges

This form of revenue through use fees and charges is playing a growing role in financing cities in the face of political pressure to limit the use and the level of local taxes. User fees and charges are more justified as “who uses, who pays”. These are introduced as cost-recovery mechanisms, for example, China builds many of modern roads through use charges. The money collected from use fees and charges is usually allocated to finance new infrastructure or make the service more efficient. The surcharges on water and electricity have become the largest source of local revenues for city governments. For example, 25% of municipal revenues in South Africa came from the charge on electricity, and 10.3% from charge on water. In the West Bank, it accounts for over half of all local revenues. Many countries can fully recover their operating costs of providing water and sewage services through use fees (Figure 24).

Figure 24: Water and Sewerage Cost Recovery Ratio



Source: World Bank

Pooled Finance

The key premise to adopt a pooled financing approach emanates from the need to address the investment requirements of small urban authorities which do not have adequate creditworthiness on a stand-alone basis in the market to undertake market borrowing and investment requirements are signification to be just dependent on grant aid from various sources. For example, in India, the Pooled Financing Mechanism is used to pool the investment requirements based on the infrastructure priorities of all small and median-sized authorities, that could not otherwise raise funds on their own due to capacity and creditworthiness issues and assists them in providing access to capital markets and investors for raising long-term funds at an affordable cost of capital. Through this approach the pooled finance aims to realise economies of scale for the combined borrowers while making the fund quantum to be a significant amount from a supply side perspective, such as the Pooled Finance Development Fund Scheme in India.

According to United Nations, around USD 3.3 - 4.5 trillion per year needs to be mobilized if we hope to achieve the SDGs. At present level of both public and private investment in SDG-related sectors, developing countries face an average annual funding gap of USD 2.5 trillion. New urban financing and infrastructure investment solutions and instruments provide ways to effectively unlock and direct these sources of finance toward realising the SDGs⁹².

Blended Finance

Blended finance offers cities a strategic opportunity to mobilise additional resources by bridging the considerable financing gap for urban infrastructure at a time when the availability of concessional financing for development and government finance is under threat. Blended finance is an approach that blends scarce public funds with private sector capital to realize innovative, high-impact infrastructure projects that contribute to sustainable development, while providing adequate financial returns and reducing risks for investors. For example, during 2010 and 2016, IFC used more than USD 560 million of concessional

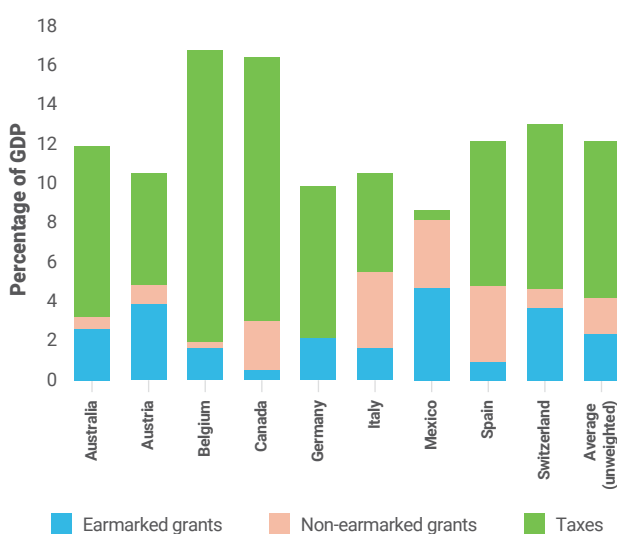
donor funds to support more than 100 projects in over 50 countries, leveraging about USD 2 billion of IFC financing and USD4.6 billion from the private sector⁹³.

Intergovernmental Transfers

For many countries, particularly for low income and low middle income countries, intergovernmental transfers remain to be the most important source of funds for local governments. However, the amount and timing of transfers can be unpredictable. Economic conditions, market cycles, demographic shifts, policy changes by other levels of government, can affect government revenues and transfers to lower levels of government. There are generally two types of intergovernmental transfers: unconditional (non-earmarked) and conditional (earmarked). Transfer programs can also distort local decision making. Conditional transfers, for example, generally require local governments to spend the funds they receive according to the guidance or requirements of the upper levels of government and often require local government matching funds⁹⁴.

The variation of dependence of local governments on intergovernmental transfers is large (see Figure 25). Local governments in developed countries usually have less dependence on intergovernmental transfers than those in developing countries, ranging from Australian local governments which receive 0.3 % of GDP, to Polish and Danish local governments which receive 13% and 12.1% respectively. The importance of intergovernmental transfers as a source of revenue for local governments also differs to a large extent. The percentage of grants in Denmark (12.1% of GDP) corresponds to just over 40% of local government revenue from taxes and grants. In the Netherlands, also a country with large grants to local governments, the percentage of grants (11% of GDP) represents almost 90% of local government revenue from taxes and grants.

Figure 25: Local Revenue as intergovernmental transfers and taxes in selected advanced economies



Source: OECD

Resources transferred from higher levels of government to cities are a predominant source of revenue. In some countries, intergovernmental transfers account for up to 90 percent or more of total local revenue, as it is the case in many cities in sub-Saharan Africa. For instance, in Tanzania from 2010 to 2013, intergovernmental transfers accounted for 92%, on average, while own revenues for the remaining 8% (see Table 4). Even in Latin American countries where the economic levels are relatively higher, most of the expenses at the local level are financed with resources from central government transfers. According to IDB, it is estimated that nearly two-thirds of revenue at the subnational level in the region comes from national governmental transfers.

Table 4: Local Government Revenue Sources

Local government revenue sources (in billions of Tanzania shillings) for FY 2010/2011-FY2012/2013

Fiscal Year	2010/2011	2011/2012	2012/2013
Total Revenues	2,251	2,439	2,988
Intergovernmental Transfers	2,084	2,243	2,733
Own Revenues	158	196	241
Intergovernmental Transfers as % of Total Revenues	92.59%	91.97%	91.47%
Own Revenues as % of Total Revenues	7.03%	8.02%	8.06%

Source: T Masaki

Municipal Development Funds

Municipal Development Funds channel investment in urban infrastructure through municipal government and of strengthening the capacity of these institutions in the process. They have attracted the support of international aid donors because they offer a mechanism for “wholeselling” urban investment. In most developed countries, the Municipal Development Funds or their variations can be traced to the 19th Century. For example, the Belgium Municipal Credit Bank, the Danish Municipal Credit Association, the Bank for Netherlands Municipalities, the Japan Finance Corporation for Municipal Enterprises, the Norwegian Municipal Bank and the Spanish Local Credit Bank were all specifically established to provide loan finance for local government. The Central Savings Bank of Vienna and the German Municipal Bank are directly or indirectly under municipal control but lend to a variety of public agencies and private enterprises including local government. The Municipal Development Funds operated by the French Caisse des Depots et Consignations, the Italian Cassa Depositi e Prestiti and the Portuguese Caixa Geral de Depositos are effectively “windows” within institutions holding and investing a variety of state-controlled savings, pensions and insurance funds⁹⁵.

Municipal development funds are often established at national level in the form of a financial intermediary channeling resources in a mix of loan and grant resources, and in some cases, provide blended finance. More than 60 countries have established municipal development funds. In the 1990s, World Bank and Asian Development Bank relied very heavily on municipal development funds as a key part of their strategy to help finance local investment needs⁹⁶.

Municipal development funds require the establishment of sound regulatory frameworks on subnational borrowing, adequate prudential limits, and transparent assessment and approval mechanisms for local government borrowing. Although their operating and financing mechanisms vary from country to country, these funds have proven instrumental in promoting fiscal discipline and in generating capacities for project development, repayment and credit histories. FINDETER in Colombia and PARANACIDADE in Brazil are two good examples⁹⁷.

Debt Instruments

Debt instruments including bank loans or bonds are the largest categories to finance infrastructure works in USA. Debt instruments can be structured to have long-term maturities that extend over the life of long-term assets. Debt financing can be provided through multiple instruments such as direct loans held on the balance sheets of financial institutions or may be structured for resale to investors or distribution in markets, either private markets or public markets through registered corporate and government bonds. Such debt instruments can fit the demands and preferences of certain investors such as pension funds and insurance companies and broaden infrastructure finance options to a larger potential pool of capital. For example, according to CNBC, the available municipal bonds (outstanding) in USA in 2020 were USD3.8 trillion.

Borrowing is the other major funding source to finance urban infrastructure for cities under decentralized fiscal systems. Borrowing can be done through bonds or bank loans, or pensions and other sources. These borrowed funds can come either from a private or public source. The total of United States local governments borrowing through bonds stands at USD 3.8 trillion. The outstanding local governments bonds in China is 25.3 trillion yuan (USD 4 trillion)⁹⁸.

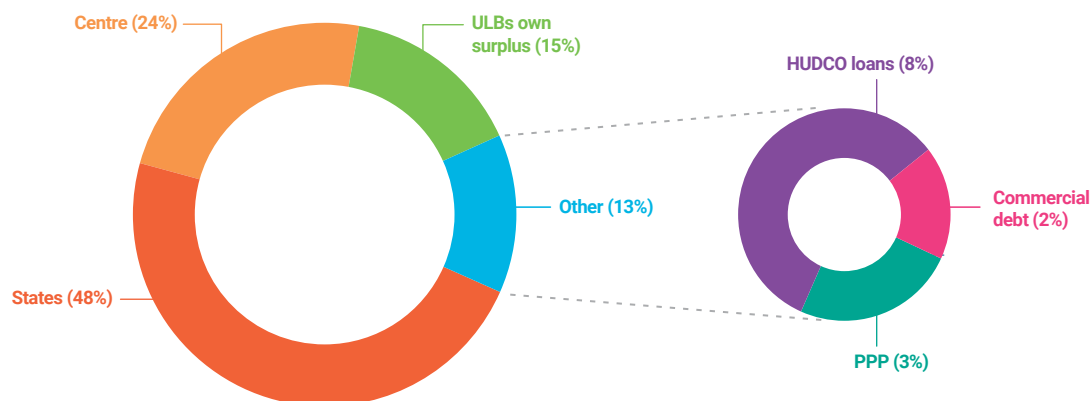
The choice between using borrowed funds and own-source revenues is one of selecting the timing for payment of infrastructure and services. Borrowing is appropriate when it is acceptable to pay for the services over a considerable period, such as when benefits accrue over many years. In most countries, cities can only borrow to make capital expenditures. Municipalities are not allowed to run a deficit in their operating budgets, which limits their borrowing powers.

Local governments may issue bonds to finance capital improvement projects, including clean energy, water, and transport projects. Municipal bonds are the most traditional type of bonds and can be used with varying tax liability and forms of security. Local governments can issue bonds to finance their own projects at lower interest rates than most other financing alternatives because they are backed by the full faith and credit of the government entity instead of the balance sheet of the issuing organization⁹⁹. However, local governments in many developing countries lack the basic legal framework to issue bonds, and often lack creditworthiness.

Debt financing is very small for local governments in developing countries. For examples, in India, it is about 2% (see Figure 26). There are huge spaces to increase debt financing.

Figure 26: Low Percentage of Commercial Debt in Urban Finance

Total Urban Investment FY 11-18 - USD 85 billion



Source: World Bank

Private Sector Financing

The size of the challenge for financing sustainable urban development is huge. Most of the world's finance resources are in the hands of the private sector. The private investors and financiers across the globe control more than the magnitude of financing needed to close the infrastructure financing gap. For example, pension funds hold in excess of USD30 trillion, whilst institutional investors more broadly hold in excess of USD 85 trillion. If a portion of the capital from private sector investors is mobilized to fund SDGs, it will meet all investments needed to achieve the SDGs. The primary obligation to provide public services through infrastructure remains with governments while the private sector, multilateral development banks (MDBs), donor agencies and non-governmental organisations (NGOs) can provide critically needed support governments to plan, develop, finance, build and operate the infrastructure needed¹⁰⁰.

Private finance of urban infrastructure has grown significantly over the past one or two decades. Public-Private Partnerships (PPP) are a typical arrangement for infrastructure project financing. PPP is often established through a long-term contract between a public-sector entity and a private sector entity for the design, finance, construction, operation and maintenance of public infrastructure. Risk distribution and responsibilities vary according to the type of contract entered between the public sector and private sector.

To mitigate against risk and to support a human rights based approach to development, UN-Habitat promotes a 4P approach where public, private and people partnerships are formed. The people dimension - including local community and neighbourhood level organising, civil society groups, academics - all the stakeholders of the New Urban Agenda, the 2030

Agenda - are value-enhancing by providing critical inputs to the project formulation process that ensures long term sustainability.

Key factors Impacting Private Financing for Urban Infrastructure

The primary constraints preventing a higher volume of private financing for urban infrastructure are on the demand side. The national policy and political economy decisions affect revenue levels at the city level and the funding base for private financing. The weak absorptive and implementation capacity of city agencies for capital expenditure reduces the private sector's interest in financing urban infrastructure. The restrictive inter-governmental framework reduces accountability and incentives for city agencies to invest more ambitiously in urban infrastructure. The next most critical constraint appears to be state-level regulatory and policy factors which intermediate demand and supply of finance. These are aggravated by a set of secondary constraints including factors related to lack of the mature national financial market that dampen supply of finance, and weak financial management and fiduciary performance (see Table 5)¹⁰¹.

The key issue for financing urban development by the private sector is to de-risk private investment in urban development. Smaller and low income countries with limited financial markets are particularly vulnerable to risks.

De-risking or risk-mitigation support is important for countries to attract private investments into urban infrastructure. It can take many forms, from financial guarantees to availability payments, influencing the risk profile of the project and therefore making it attractive for the private investor or lender¹⁰². While de-risking by making changes at the project level may seem like the easier path, the more powerful interventions that support private investment in infrastructure are those that de-risk at the entire country level¹⁰³.

Table 5: Factors Affecting Private Financing in Sustainable Urban Development

Factors impacting Private Financing		Key Findings
Demand for Private Financing		
1	Revenue policy & revenue mobilization effort	Weak funding base for private financing due to policy decisions on low revenue levels for local taxes and service charges
2	Absorptive capacity of city agencies ("ability to execute")	Weak absorptive and implementation capacity limits overall infrastructure delivery even in large cities, driven by institutional weaknesses (e.g. weak strategic planning to develop pipeline of viable projects; low capacity to design and structure complex projects/PPP transactions and deal with private investors/FIs)
3	Intergovernmental Institutional & Fiscal Framework (Mandates, Funds & Incentives)	Weak and fractured functional devolution for ULBs with weak accountability and perverse incentives facing ULBs. Reinforces dependence of ULBs
4	Fiduciary quality: financial management, data etc.	Weak fiduciary capacity, quality and data of city agencies undermines investor confidence and creditworthiness
Supply of Private Financing		
5	Depth and character of the financial sector	Regulatory framework at national not prohibitive to private financing with improvements in last decade. But supply of financing from state FIS under non-level playing field crowding out private finance
Intermediation of Demand & Supply		
6	Rules of the game - Regulatory framework for commercial financing of urban infrastructure	Highly centralized direct control framework by states over ULB financing, opposite of international best practice, not conducive to creating environment for private financing

Source: World Bank

Global Infrastructure Hub examined the strength of the infrastructure enabling environment by country across key metrics: governance, regulatory frameworks, permits, planning, procurement, activity, funding capacity, and financial markets. By identifying each country's top-performing metrics, as well as those with the most room for improvement, governments can develop informed policies to facilitate greater public and private infrastructure investment. There are close links between the risks and the development level of countries. Countries achieve higher development/income levels, the funding gap reduces. The causal link is two-way. Countries improve their processes as they get richer, while better processes also lead to greater prosperity, de-risk their investment, more funding is made available (Figure 27)¹⁰⁴.

Move From Projects to Transformative Investments

Private finance can be mobilised for sociotechnical sustainability transitions. Sustainability investing coevolved with corporate social responsibility discourse and with the practice in cities, having four distinctive waves of sustainable investing: (1) ethical investing; (2) socially responsible investing; (3) responsible investing; (4) impact investing (Figure 28). Each wave of sustainability investing triggers new investment strategies, while propelling preceding ones upwards ('tidal effect'). Sustainability investing strategies can be classified into several categories: (a) approach (top down/investment thesis or bottom up/valuation); (b) orientation (mitigating

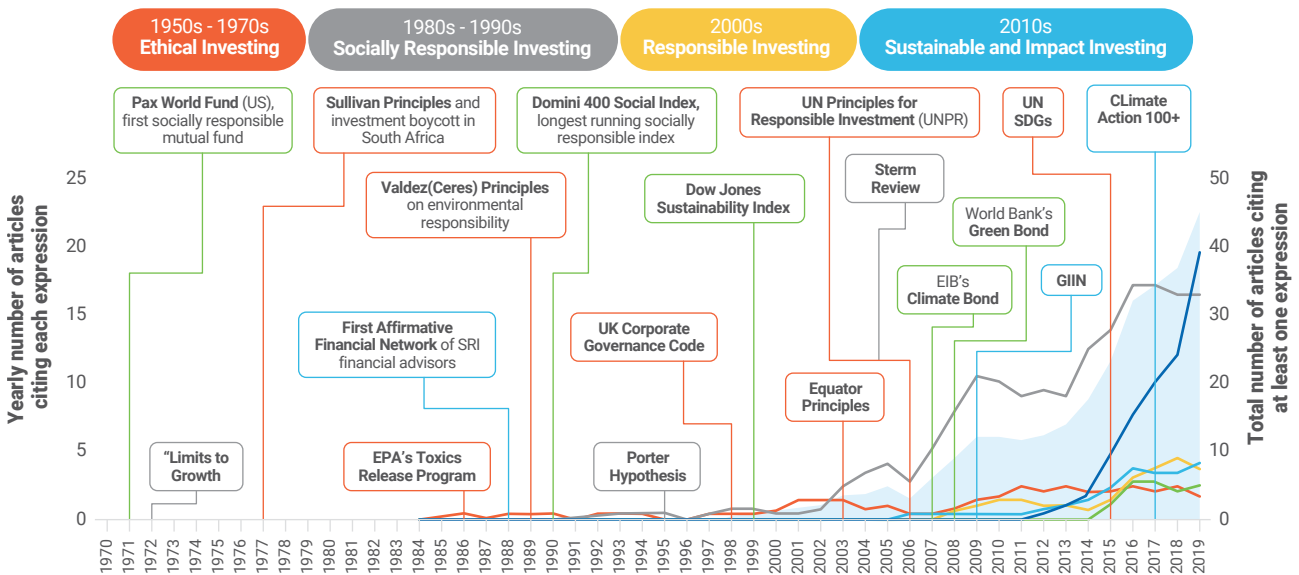
negative externalities or inducing positive externalities); (c) return on investment (from zero to risk-adjusted); and (d) sustainability investing triggered by new practices on "impact investing". Figure 28 illustrated the evolution of transformative investment¹⁰⁵.

Figure 27: Improved infrastructure enabling environment de-risking investment



Source: Global Infrastructure Hub

Figure 28: The Evolution of Sustainability Investing



NOTE: The y-axis for the series for each of the six terms is on the left; the y-axis for the total number of articles citing at least one term is on the right. The light blue shaded area representing the yearly total of unique articles is less than the sum of the six data points in a given year, because a single article may use more than one term.

Source: C Penna, et al.

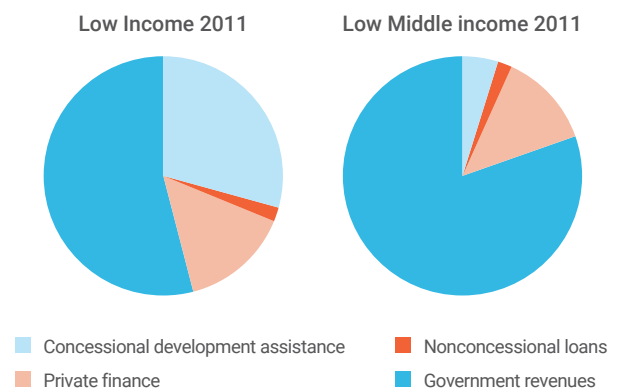
From 1950s to 1990s, transformative investment means first and foremost that investment address ESG-related issues, with focus on moral value, social progress and equity. By the 1990s, the investing practices had shifted the focus from moral values to financial value. Instead of negative screening investments, the new practice tried to positively screen investments, by including in the possible investment universe only those assets that displayed superior ESG performance. Such practice comprised strategies like norm-based or index-screening, in which asset managers invest in companies that adhere to certain norms or a part of a sustainability-/ESG- market index, for example, Domini 400 Social Index - the socially responsible stock index; the Dow Jones Sustainability Index. Responsible investment (without 'socially') is regarded as the third wave of sustainability investing, which was popularised after the launch in 2006 of the UN's initiative Principles for Responsible Investment (UNPRI) and its widespread adoption¹⁰⁶.

International Development Aid

Due to rapid urbanisation, donors are increasingly interested in financing cities in developing countries. The World Bank is by far the largest fund provider. The funds it provides to cities help to leverage all other sources of finance, leverage expertise, and scale-up solutions to support developing countries' sustainable urban

development. It is followed by the regional multilateral development banks. However, financial support to cities by MDBs has often been confined to single functions or sectors, such as roads, electricity, water or sanitation, without addressing broader, cross-cutting issues of management and capacity that might strengthen the sustainability of the interventions. Figure 29 shows that external assistance consists of a very significant proportion of total development finance needs in low-income countries.

Figure 29: The external assistance is significant in low-income countries



Source: Brookings, 2014

chapter

05

**Make Cities Sustainable
and Investable: Policy
Recommendations**

Cities can be the most important drivers of national economic growth, creating jobs, raising productivity and constructing decent housing. But many cities fail to make the investments (public and private) that are necessary to achieve their potential. Without adequate investment, the benefits of economic density will not be achieved. If there are high costs for doing business, the city will not be able to attract new activities or reap economies of scale. If land and capital markets function poorly, buildings will be constructed to a low standard. Making the city investable requires a combination of an enabling environment, effectively functioning land markets, an appropriate regulatory framework, good public services, adequate public finance, and a credible plan of future city development. If the private sector is to undertake investments in a fast-changing city environment, it needs both the market opportunities (such as access to land and finance) and confidence in the future development of the city¹⁰⁷. Below are a set of recommendations on how to make our cities sustainable and investable.

Choosing Appropriate Development Paths: Leveraging National Development Plans to Drive Local Development in Cities

Countries should choose appropriate development paths fit for their countries, fit for their development stages and conditions, and use national development plan as a tool to drive local development in cities.

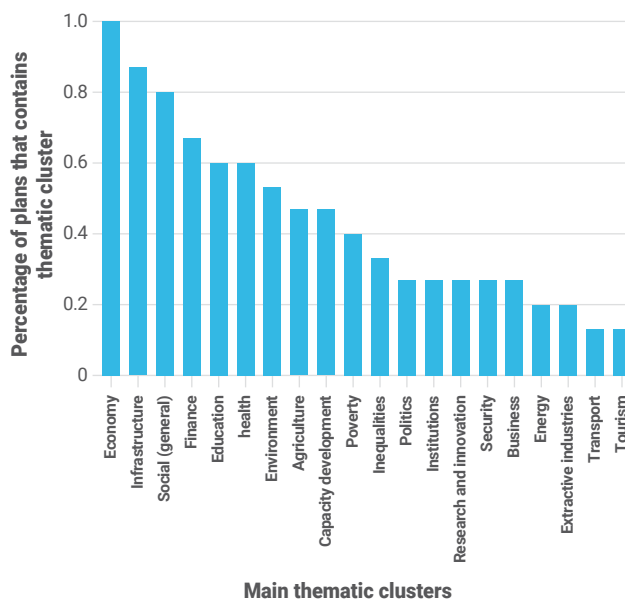
The past three or four decades of development show that there is no silver bullet in development. The development pathways of different countries should differ due to a number of factors, including the structure of their political economy, geography, history and legacy, and cultural and natural contexts. When we look back to those countries, which develop faster and better, adopt development pathways which are rooted in their culture, history and conditions, and pursued a relatively diverse set of economic and social policies and practices. Development is ultimately successful when diverse, locally owned and locally developed solutions are applied towards a plurality of conditions and fit different development stages¹⁰⁸.

The use of national development plans (NDPs) can be instrumental in guiding the development according to national priorities and conditions. Cities are part of national development. The use of national development plans in international development co-operation comes after a resurgence in national development planning in the 21st century. In 2007, only 62 developing countries had a national development plan or strategy, and more than 130 had such a strategy in 2017. National development plans address the challenges of complexity, coherence and prioritization. Analysis of national development plans in 15 African countries reveals about 20 main thematic clusters. Among the 20 thematic priorities, Economy is the No. 1 priority listed in national development plans by all countries. The other 3 top

priorities are Infrastructure, Social development and Finance (Figure 30)¹⁰⁹. Spatial planning should be better aligned with national development plans within the planet's ecologic footprint.

Figure 30: Analysis of National Development Plans in Africa

Coverage of 20 main thematic clusters in the national development plans of 15 countries in sub-Saharan Africa



Source: <https://www.oecd-ilibrary.org/>

Establishing a Sound Regulatory and Institutional System

→ Having the right policies in place, as well as the supporting legal and enabling frameworks for urban development, is essential to make cities sustainable and investable. Good policies and regulatory and legal systems define the respective roles of government, society and the private sector in urban development. They promote private investment, private property rights, and well-functioning markets, including sustainable financing systems. It provides flexible, affordable, yet environmentally sound buildings, infrastructure, and development standards. Such efforts can focus on the improvement in the following four areas¹¹⁰:

- **The regulatory, legal and policy environment:** To establish a clear legal and regulatory system to authorise and govern subnational and local government borrowing, and to develop effective and efficient land and property system and markets.
- **The institutional environment:** To ensure that adequate institutions are in place, with the right skills and capacity needed to structure and implement financing instruments and to avail investment opportunities to the private sector. Government institutions are effectively coordinated with clear assignment of responsibilities, accountability and predictability.

• **The investment and credit environment:** credit ratings in cities are needed to demonstrate the creditworthiness of cities in order to attract financing from capital markets, the private sector, and etc. Cities need to develop the capacity to plan and manage large capital projects, currency risk, and interest rate volatility.

• **The fiscal environment:** How the government manages and monitors its spending levels, tax rates, and liabilities with respect to the financing instruments will directly affect the willingness of the private sector to invest.

At the city level, investors will look at the creditworthiness of the city and any guarantors backing the city. The World Bank estimates show that less than 20% of the largest 500 cities in the developing world are deemed creditworthy. In the entire Africa continent, most cities are not creditworthy. This is mainly attributed to a weak revenue base and weak collection power. Through strengthening their financial systems by charging users for infrastructure, improving collection of arrears, using technology to reduce the cost of revenue administration and deploying new and innovative models of finance, cities can significantly improve their creditworthiness and achieve the degree of financial autonomy they need to unlock available capital¹¹¹.

At the project level, investors require a high degree of certainty and predictable market conditions and policy and regulatory environment that projects will go ahead and that anticipated cashflows will be realised. Innovative financial and collaborative approaches will be key to prepare projects that private capital has the confidence to invest in¹¹².

Today, most established financing approaches will largely benefit creditworthy metropolises and megacities. That leaves the majority of other cities, particularly small and median-sized cities in the developing world, faced with difficulties when accessing financing on the required scale on a commercial basis. Those countries that have emerged from colonial servitude and that have made the transition to being creditworthy all share the experience of successfully translating policy into practice.

Policy actions can focus on structural reforms and incremental actions to address the systemic constraints. Structural reforms are needed to address core fiscal and institutional constraints, which can help overcome core fiscal, institutional and revenue constraints. This in turn will allow cities to access capital markets and special donor funds for loan-based finance to invest in urban development¹¹³.

Investing in sustainable urban development is not only good for cities, but also good for combating climate change. Connected, compact urban development can help governments serve larger populations using less capital, more efficient use of land and other resources.

City leaders can also make urban infrastructure markets more attractive for private investment through an enabling environment using public funds to leverage private resources and prioritize sustainable urban development¹¹⁴. It prepares and educates investors to take on ESG projects, integrating ESG methodology into their investment processes from the ground up, rather than incorporating them into specific ethical or socially conscious strategies alone, making investments responsible, ethical, sustainable, socially conscious¹¹⁵.

Measures to transition towards sustainable urban development should go hand in hand with measures to attract the necessary finance. Improving budgetary control, enhancing creditworthiness, diversifying and improving revenue bases, and collection efficiency through land value capture and municipal bonds, improving revenue collection methods, supporting project preparation, and bundling procurement processes for multiple cities can help local governments establish credibility and their creditworthiness. Of paramount importance is public management efficiency and transparency to attract the private investments¹¹⁶.

Promoting New Partnership Models to Leverage Finance and Resources

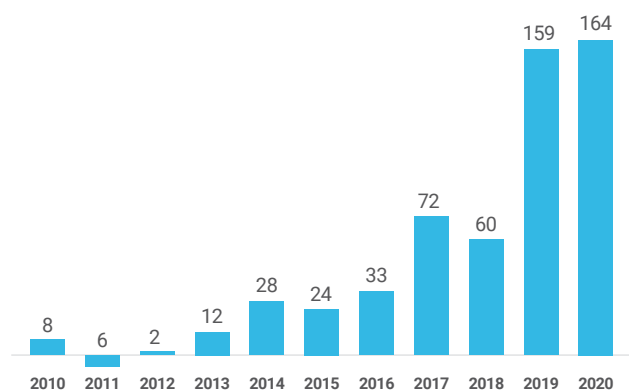
Promoting Public Private Partnership

Countries can create a Public Private Partnership (PPP) enabling environment through the establishment of necessary legal and regulatory regimes, policies and streamlined administrative procedures to promote PPPs to leverage private sector finance¹¹⁷.

The Addis Ababa Action Agenda on Financing for Development recognises that the key role of public private partnership in infrastructure finance. It highlights the need to build capacity to enter into PPPs, including as regards planning, contract negotiation, management, accounting and budgeting for contingent liabilities. It further stresses the need to share risks and reward fairly, include clear accountability mechanisms and meet social and environmental standards¹¹⁸.

Public-private partnerships (PPP) can create innovative, mutually beneficial opportunities for sustainable urban development by local governments, the private sector, and other actors to find scalable solutions to urban development challenges. The journey towards thriving, equitable, and sustainable urban development will be long and challenging, but the path forward is clear and promising. Innovative solutions like green bonds, administrative efficiencies can unite public and private entities to help smooth the transition and close the urban infrastructure and development financing gap (Figure 31)¹¹⁹. Green bond is an example of the kind of innovation World Bank is trying to encourage and to help stimulate and coordinate public and private sector activity to combat climate change¹²⁰.

Figure 31: Rapid increase of sustainability bonds



Source: UNCTD

Public-private partnerships can be either be solicited or unsolicited, depending on who initiates the project. For a solicited project, the local authority identifies a potential project which is suitable to be structured as PPP and solicits proposals from the private sector. For

an unsolicited project, the private sector identifies a potential PPP project and proposes the project as a PPP to the local authority. In this case, the concessionaire is selected under a competitive bidding process, although the initial proponent (the private actor who proposed the project) may obtain extra points in the bid evaluation. Solicited projects take governments considerable time and cost money to initiate, while unsolicited projects benefit from the efficiency and business insights of the private sector and their assessment of associated costs and risks. Unlike unsolicited PPPs, however, solicited projects can be implemented in line with a government's overall infrastructure investment plan and priorities¹²¹. The Development of North of Massachusetts Avenue in Washington, D. C. is a success story of public private partnership (see Box 3). For projects which heavily impact people, by adding the people dimension into each of these formulations, we also ensure that we embed a return on value paradigm taking into account SDGs, and at the local level, equitability as a basis for leaving no one behind for urban development initiatives.

Box 3: The Case of Public Private Partnership for the Development of North of Massachusetts Avenue in Washington, D. C.

The city of Washington, D.C. used public private partnership to build a metro station - North of Massachusetts Avenue, generating a large amount of wealth by the recovery of land value gains.

Although located close to the city's downtown, North of Massachusetts Avenue was a neighborhood in economic decline. In 1993, 24% of residents lived in poverty and 50% didn't own a car, meaning there was an increased need for public transit alternatives.

To reactivate this neighborhood, and as part of a general economic revitalization plan, it decided to build a subway station that would serve as the first step in turning the area into one of the most prosperous areas of the city. However, Washington, D.C.'s municipal finances in the late 1990s were not in good shape. Therefore, it was decided to seek external financial assistance, specifically from the private sector. The project was subsequently built via a single public-private partnership, combining funds from private landowners, the District of Columbia, and the federal government. Each party initially agreed to pay USD25 million (or a third of the total costs), with the District of Columbia responsible for any surplus costs.

Construction work on the station began in late 2000 and was concluded by November 2004. Developers started showing interest in lots in the area even before the District's approval of the final plan, launching a virtuous economic cycle that has lasted nearly two decades.

Results:

- Economic Output – USD4.7 billion in total economic output was generated from both build-ings and jobs across all sectors starting in 2004 (USD2.2 billion in cumulative construction output and USD2.5 billion in permanent output in 2014).
- Construction Spending – USD1.7 billion in direct construction spending, not including im-prove-ments to parking lots and infrastructure.
- Labor Earnings – Since 2004, the total labor earnings generated by construction activity have been over USD1.1 billion. In 2014, permanent labor earnings amounted to almost USD1.9 billion.
- Employment – Approximately 14,338 direct, indirect, and induced jobs were created be-tween 2004 and 2014 as catalysed by the metro station construction spending. An addition-al 15,168 permanent jobs were created, resulting in a total impact of 29,506 jobs.



Source: IADB

Box 4: The Cases of BOT Projects in Africa and Asia

The Government of Kenya aims to mobilise private sector capital and expertise in the infrastructure and launched the country's first build operate transfer (BOT) project - Nairobi Expressway, under a 30 year BOT arrangement in 2019. The expressway runs from Mlolongo to the James Gichuru Road / Waiyaki Way intersection, aims to ease traffic flow on Mombasa Road, Uhuru Highway and Waiyaki Way.

The Bangkok Mass Transit System (BTS), the elevated train system in Bangkok, is an example of BOT project. The project was implemented under a 30-year BOT concession agreement between the concessionaire and Bangkok Metropolitan Administration (the city Government).

A large number of BOT port and road projects have been implemented in the region. The Nhava Sheva International Container Terminal (NSICT) is an interesting example of efficiency gains through a BOT project in the port sector. In 1997, the Jawaharlal Nehru Port Trust (JNPT), India signed an agreement with a consortium led by P&O Australia for the development of a two-berth container terminal on BOT basis for 30 years at a cost of USD 200 million. P&O completed the project before schedule and commenced operations at the new terminal in 1999. Already the first year of operation the terminal was handling much more traffic than expected. Private participation also resulted in impressive efficiency gains. Efficiency indicators such as average turnaround time of ships and output per ship-berth-day at the terminal were comparable to other efficiently operated ports in the region. The average turnaround time in 2003-04 for ships and containers were 2.04 and 1.84 days, respectively, which were far superior to corresponding indicators for other comparable terminals in the public sector.

The BOT model is often used to exploit the existing assets and raise capital resources for modernisation and capacity expansion to the existing infrastructure. The Indian Railway is applying this concept for the modernisation of several large city railway stations under the BOT model.

Source: UNESCAP; InhVesta

PPP can also take the form of Build-Operate-Transfer (BOT), a type of arrangement, the concessionaire undertakes investments and operates the facility for a fixed period of time after which the ownership reverts back to the public sector. In this type of arrangement, operating and investment risks can be substantially transferred to the concessionaire¹²². The Nairobi Expressway and Bangkok Mass Transit System are two of the good examples of BOT projects (see Box 4).

Cities can also leverage the international support to pro-actively catalyze innovation and enterprise through start up accelerators that also leverage new and emerging technologies. Knowledge exchange between cities and targeted capacity building are very relevant as demonstrated by UN-Habitat's demonstration projects. The University of Nairobi, with assistance from UN-Habitat and the GIZ Transformative Urban Mobility Initiative, developed a Mobility Accelerator, a hub for transport and mobility innovations and positioned itself as a facilitator for the development of new concepts of electric, connected and shared mobility. One early result following the establishment of the accelerator, for example, has been the development of a prototype of a commercial electric vehicle by an entrepreneur (Auto-Truck Kenya) who was approached to train technicians to convert conventional Internal Combustion Engine tuk-tuks project to electric vehicles operational in Mombasa, and much later in Dar es Salaam, thus showcasing the uptake of new solutions and creation of job opportunities.

Promoting Vertical Partnership Between Different Levels of Governments

Countries need to promote structured partnership and cooperation between different levels of government. The establishment of an enabling framework and institutional set up all requires a good partnership between different levels of government.

The effective implementation of some financial instruments and products also depends on a structured cooperation between all levels of government, particularly for those infrastructure which connect different territories. The financing of small and medium-sized cities will rely more on the upper financing and support through intergovernmental transfers and technical and administrative support. For example, large transportation infrastructure investment often requires substantial regional coordination.

In order for cities to be competitive and attractive, they often have to foster and partner with a range of stakeholders working with different levels of governments (local, regional, national) in order to raise the resources and meet the challenges of globalisation and decentralisation¹²³.

Improving multi-level cooperation is key to ensuring climate policy is translated into local action and becomes the basis for the allocation of public funds from the national budget. In the most successful development models (from the Developing World to the First World, for example, Singapore), the state leads by allocating capital and creates the right kind of investing environment (Ease of Doing Business index). If we want financing from the private sector to follow, we need strong state-led economies with de-centralised economic sectors and specialisations at the regional and local level.

Promoting Horizontal Partnership between Cities for Sharing and Pooling Resources

Two or more cities enter into a horizontal collaborative arrangement on the understanding that they will have a substantial, long-term strategic relationship and will share a common future that is mutually beneficial. These arrangements are usually geographically based. City governments with a small population and consequently a small revenue base are adopting this approach. The small base reduces the capacity of these city governments to attract and maintain highly skilled and experienced staff, but the demand from the community for services and infrastructure is much the same as it is on larger city governments. The forming of a collaborative arrangement allows city governments to pool resources, reduce duplication and form a common platform to develop initiatives. They typically involve some common policy and governance arrangements, as well as agreements for common business and operational activities¹²⁴.

The benefit of this horizontal partnership model is that it achieves the business advantages of amalgamation, at the same time, individual cities maintain their autonomy. Benefits include economies of scale, streamlined business processes and improved service delivery for partner cities. These partnerships need a strong strategic planning focus and robust governance arrangements. Their success depends on high levels of commitment and relationship management. They generally use a combination of business mechanisms to achieve their objectives, including shared administration and reciprocal resource sharing (see Box 5)¹²⁵.

Promoting Public Private People Partnership (4P)

UN-Habitat emphasises the importance of citizen participation in sustainable urban development and finance, and explore new models in order to make private companies more involved in the development processes through different types of public-private partnerships and cooperation modes. The concept of Public-Private-People Partnership (4P) is one emerging way of highlighting the need for developing the involvement of private actors and the general public in a joint process¹²⁶.

There are challenges in current ways of combining public-private partnerships and citizen participation. The private sector and citizens often have different positions in the development processes. Public-private partnerships and citizen participation are based on different ideas and principles. Public-private partnerships are based on an idea of cooperation practiced through negotiations and formalised through binding contracts. Citizen participation is based on the idea of offering a possibility of “making one’s voice heard”, particularly involving women and youth¹²⁷.

Lack of public input early in the planning processes is found to risk increasing the focus on economic considerations and economic sustainability of the project on the expense of creating liveable urban environments based on the needs of the local communities. The 4P approach is a way to address the problems related to public-private partnerships by bringing the general public into the partnerships alongside with public and private actors, particularly to address the problems of exclusion and lack of

Box 5: Horizontal Partnership between Cities for Sharing and Pooling Resources – the case of Hunter Councils Inc

Hunter Councils Inc represents the twelve local government areas of the Hunter Valley. Building on the strength of relationships developed over 50 years, the councils have developed the ability to share a range of resources including professional staff and plant between councils, and undertake a range of projects including running a regional airport and a waste recycling facility, among many others. The Regional Organisation of Councils has capitalised on that relationship by building a significant shared service entity, Hunter Councils Inc and its trading arm, Hunter Councils Ltd. Programmes include a range of environmental management pro-grammes which over 2005-06 had a value of USD3,435,000 which provided a value to each council of USD893,000. Learning and Development (a registered training organisation) delivered 322 local government based programmes to 3,300 participants during 2005-06 with costs savings to the value of over USD1 million. Regional procurement facilitated over USD10.8 million purchases with an average saving of 10 percent.

Hunter Records Storage – a State Records Act compliant records storage facility which offers its services to members and other agencies and companies operates on a commercial basis and provides not only a regional service but also a revenue stream to provide self-sustainability. A board made up of elected representatives of member councils sets the strategic direction for the organisation. A committee comprised of general managers provides the direction and governance required for the projects. A large range of professional teams comprised of specialists from each council meets regularly to share expertise and identify opportunities for resource sharing projects.

Source: IPA

transparency¹²⁸. According to a survey conducted in Indonesia, 80.4% respondents think that the involvement of people in PPP infrastructure finance is very important, and it can improve the welfare of people as well¹²⁹. The improved benefits to people, communities and environments can in turn attract private investment and foreign investment. For example, the city government of Seberang Prai introduced the 4P approach since 2014, gained the confidence of people and investors, was able to increase FDI by 200% during the tenure of Mayor Maimunah Mohd Sharif, and also achieved the highest recycling rate in the country; clean bill of health from Transparency International and increase in own source revenue collection by more than 170%.

A strategy for promoting sustainable urban development constitutes an integral part of the human rights approach to development. The 4P approach integrates the human rights approaches, and a gender-based development perspective. It takes an inclusive development approach. As a source of financing and innovation, private philanthropy has also been such an integral part of sustainable urban development landscape.

Supporting Cities to Improve Creditworthiness

According to World Bank, developing countries need an extra USD 1.3 trillion of investment in urban public infrastructure each year. Traditional sources of financing from central governments and international aid organizations will not be sufficient to meet the demand. Cities will need to innovate and access private sources of long-term financing through local capital markets and

commercial partnerships. The important thing cities need to do to attract investment from private sources is to make their cities creditworthy (see Box 6).

Cities can improve their creditworthiness through: (1) Improving their financial capacity and performance and improve their fiscal status; (2) Developing an enabling environment through legal and regulatory instruments; greater alignment of policies at the national level and local level; (3) Improving cities' technical capacities to prepare sound, climate-smart, bankable projects; (4) Improving access to private investors, and create conditions and confidence for the private sector to invest in sustainable urban development projects¹³⁰.

World Bank set up a city creditworthiness program to help cities to improve creditworthiness. Cities make an in-depth assessment of their financial situations and develop an action plan to improve creditworthiness. The action plan is tailored to a city's specific context and challenges and conditions, to address specific financial issues such as revenue and debt management, improved expenditure control and asset maintenance, capital investment planning, as well as transaction planning, structuring, and execution. World Bank extend technical assistance to cities with the identification, collection, and management of own source revenues, strengthening the administration's financial management policies and practices. It helps cities to use revenue sources to structure debt transactions for urban investment projects. It supports coordination with central governments to improve legal and regulatory frameworks that empower city administrations to collect revenues and issue debt¹³¹.

Box 6: Support the City of Dakar to Improve its Creditworthiness

PPIAF provided technical assistance to the City of Dakar in Senegal to help it improve its fiscal condition in 2008 through a diagnostic review of the financial management system for the City of Dakar. It used the PEFA assessment tool – a framework for measuring management performance of local public finance – to review the current state of the city's financial management and identify measures to improve its creditworthiness. Following the implementation of the PEFA study's key recommendations, the City of Dakar received its first public credit rating from a local credit rating agency. The city was rated as investment grade (BBB+) on the CFA regional scale. In 2013, PPIAF provide follow-up assistance to support the city in re-fining its revenue improvement strategy. This assistance was part of a series of initiatives the city undertook to implement the recommendations of the PEFA assessment. The PPIAF support included the development of an action plan to improve financial management and guidelines to strengthen the legal framework for revenue collection. A capacity building workshop on public finance management was also held for senior city executives responsible for financial administration. As part of its strategy to mobilise long-term infrastructure financing, the City of Dakar decided to issue the first municipal bond in the West African (CFA) currency zone. In 2014 PPIAF supported a credit rating for the bond transaction. The bond was rated an A on the regional scale by a local credit rating agency, reflecting that the transaction structure and credit enhancements on the bond substantially reduced the investment risk.

Results:

The City of Dakar improved its financial management practices by implementing the findings of the PEFA assessment. These improvements enabled the city to secure its first 20 year loan from AFD in 2009. The City of Dakar has since obtained a series of loans from the West African Development Bank (BOAD), Eco-bank and the Banque Islamique du Senegal (BIS) to fund specific infrastructure needs by the City. In addition, the improvements also contributed to the city obtaining a BBB+ investment grade credit rating (CFA regional). By obtaining this credit rating, the City of Dakar has met the requirements of the Conseil Régional de l'Épargne Publique et des Marchés Financiers (CREPMF) 2 to issue a municipal bond in the West African regional capital market. If the bond is issued, its credit rating of A (CFA regional) will help improve the marketability of the bond by further reassuring investors that the credit enhancements built into the bond have reduced their risk.

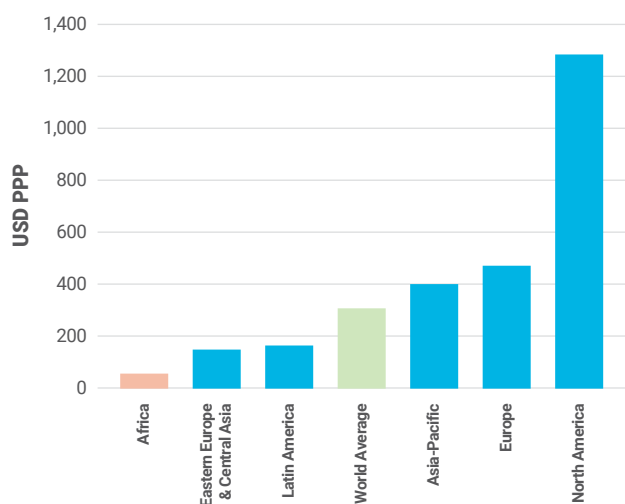
Source: PPIAF

Enhancing Public Investment in Sustainable Urban Development

Public investments can play a catalytic role in financing sustainable urban development, particularly the provision of a functioning infrastructure system (such as electricity, water and sanitation, transport), which not only benefits users and residents, but enhances market confidence for potential private investors (Figure 32).

Public investment stimulates economic activity and raises the productivity of existing private capital (physical and talent). Public investment also encourages new private investments to take advantage of the higher productivity it creates, increasing economic growth¹³².

Figure 32: Public Investment per capita by Subnational Governments, 2016



Source: OECD

Optimizing Cities' Own-Source Revenue

Own source revenue can increase absolute revenues for cities and also improves the fiscal autonomy of city governments and allows them to better manage their public finances in a way which is more appropriate to their own economies and to better meet their urban development needs¹³³.

Own-Source Revenue is increasingly important for financing sustainable urban development. However, it is not simply to generate more own-source revenue by cities. It is not the case that the more own-source revenue the better. Cities need to consider the impacts of its revenue on those who pay and those who benefit from it. However, own source revenue is essential for long term sustainability as urban infrastructure and housing needs continual investments in maintenance.

Cities should perform a thorough gap analysis to define the potential revenues and their impacts for any given stream. This exercise involves analysing the city's revenue baseline to determine current revenue generation across all streams and then comparing revenue streams against benchmarks for peer cities to identify any gaps. With initial adjustments for relevance and size of potential revenues and their impacts, cities can select the most promising streams as revenue generators. Following the clear identification of interventions and opportunities, cities can set priorities based on social acceptance, economic impact, and ease of implementation, to determine to develop which new streams of revenue and enhance which streams of existing revenue to reach an optimal level of revenue generation¹³⁴. International development agencies increased their efforts to help cities to undertake own source revenue generation assessment. For example, UN-Habitat helps Kisumu to conduct rapid own source revenue analysis (ROSRA). GIZ helps Mzuzu to conduct own source revenue regeneration assessment. World Bank and UKAID help counties across Kenya to assess their own source revenue generation potential in six revenue sources categories (see Table 6).

Unlocking Land Value: Land-based Finance

Land is a primary asset for many cities. If appropriately utilised, land can be turned into an important source of revenue for cities. In the meantime, cities hold critical planning, design and development permitting responsibilities, together with effective land asset utilisation, can unlock significant public and private financing in the form of land value capture. This approach seeks to capture part of the increase in land and property value resulting from public infrastructure investment or policies or administrative action (e.g., rezoning) from private owners. Land-based financing instruments can take different forms: (1) betterment levies, widely used in UK and Colombia, charging part of benefits received by private owners; (2) development levies, (3) sale of development rights such as increased floor ratio through building heights or densification, widely used in India and Brazil; (4) tax increment financing, widely used in USA, whereby a city government can invest in catalytic infrastructure and other capital investments using funds generated by future, anticipated incremental tax revenues within a defined area¹³⁵. Prior projections of gains may allow municipalities to borrow or issue bonds against future revenues¹³⁶ (5) land value taxation; (6) revenue sharing; (7) profit sharing; (8) refinancing gain share; (9) user fees, and (10) impact fees. Some good examples of land value capture are in Colombia. In 1968, the revenue collected from betterment levies accounted for 45 percent of all local public expenditures in Medellín. In the early 1980s, it accounted for 30 percent of Cali's expenditures; and in 1993, 24 percent of Bogotá's local revenues. In Bogotá, about USD1 billion worth of public works being funded by the instrument between 2007-2010 (see Table 7)¹³⁷.

Table 6: Assessing the Potential of Own Source Revenue in Six Main County Revenue Categories in Kenya

Top-down revenue potential estimates for six main county revenue sources

Revenue source	Total potential (Ksh)	% of GDP	Revenue gap
Property tax:			
(i) assuming 90% lowest value properties exempt, 1% rate others	66.2 billion	1.01%	91%
(ii) assuming 1% rate all	84.3 billion	1.28%	93% Only for 26 counties with data
(iii) assuming 0.5% low value, 1.5% high value	108.3 billion	1.65%	94%
Building permits:			
(i) 1% on all construction value	6.0 billion	0.09%	35%
(ii) 1% on low, 2% on high value	11.8 billion	0.18%	66% Only for 8 counties with data
Business licences	23.4 billion	0.31%	75% Only for 41 counties with data
Liquor licences	10.2 billion	0.14%	89% Only for 5 counties with data
Vehicle parking fees	12.6 billion	0.17%	61% Only for 39 counties with data
Outdoor advertising	6.3 billion	0.10%	83% Only for 8 counties with data
OVERALL TOTAL RESULTS			
Low Scenario	125 billion	1.8%	Total potential (high scenario) = 43% of total county budget (FY16/17)
Medium Scenario	143 billion	2.1%	
High Scenario	173 billion	2.6%	
Actual (all sources, average FY16-FY17)	35 billion	0.50%	
Actual cess collections FY 17	1.2 billion	0.02%	
Total County Budgets	399 billion	5.7%	

Source: Adam Smith International, World Bank

Table 7: Revenue Collected from Public Works Programs Funded by Betterment Levies in Bogotá, Colombia, 1993–2013

Programs	Year of Approval	Date of Charge	IJS\$ (TRM)
Basic Valorization across the City	1993	1993	106,160,600
		Subtotal	106,160,600
Forming the City Program (Formar Ciudad)	1995	1996-1998	351,928,000
		2001	55,931,000
		Subtotal	407,859,000
Agreement 180 of 2005 (modified by Agreement 398 of 2009)	2005	Phase I - 2007 and 2010	319,311,000
		Phase II - 2012	326,108,000
		Phase III - 2014	321,685,000
		Phase IV - 2016	105,000,000
		Subtotal	1,072,000,000
Agreement 451 of 2010 (Master Plan, Zone North)	Ring Road #1 Charges in 2012		220,000,000

Source: <https://ugc.futurelearn.com/>

Another example is land value capture by the city government of Cuenca, Ecuador. The revenue collected from betterment levies by the city contributed significantly to financing urban development. Over the 10 years period between 2003-2013, Cuenca issued 1,800 contracts for public works projects and collected almost USD200 per capita, much higher than Bogotá's USD150 in the

same period. Cuenca's USD25 per capita fees collected in the single year of 2010 (totalling USD12.4 million) far surpassed those of Bogotá in any single year. Cuenca excelled in terms of performance, with 90 percent of households making their contributions in less than four years, 95 percent of the projects collecting 60 percent in betterment levies, and only 3 percent of contributors found to be noncompliant¹³⁸.

Promoting Positive Urbanisation and Urban Productivity

Urban productivity and own source revenue are positively interrelated. Better economy and productivity will help cities to generate more own sources revenue. Weak economic power will impede the efforts to generate more own source revenue. Therefore, it is essential for cities to invest more in productive assets of cities to boost urban productivity.

Urbanisation drives productivity through improved division of labour and specialisation, economies of scale, agglomeration and urbanisation. The effectiveness of urbanisation in driving productivity depends on how cities grow, the quality of cities and the ways they are financed.

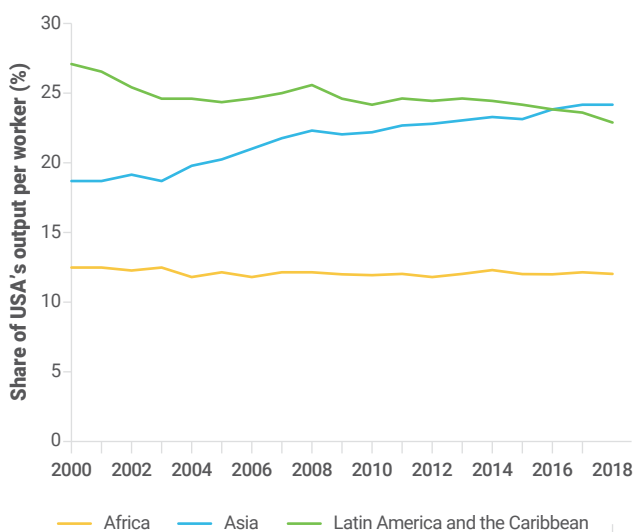
Cities provide economies of scale, agglomeration, and localisation; they provide efficient and shared infrastructure and services through density, concentration and connectivity in transportation, communications, power, human interactions, water and sanitation services. They attract talents and skilled labour that allow specialisation in knowledge, skills, and management

capabilities possible. Cities provide scale of markets with large numbers of buyers and sellers of products, services, property and labour.

Good urbanisation stimulates structural transformation which can deepen the division of labour and specialisation, provide shared and efficient infrastructure and services, and scale of effective markets. Such urbanisation pathways improve productivity, the quality of economy and the quality of cities, and enhance cities' capacity to manage higher level economic activities and productivity.

However, urbanisation can also occur in the absence of economic growth and lack of productivity. For example, in some Sub-Saharan African countries, urbanisation has occurred to a large extent independent of economic development and without structural transformation. African urbanisation does not lead to the much increasing of productivity. For example, compared to USA, Africa's labour productivity remained at 12% of that of USA between 1990 and 2018. In contrast, countries in developing Asia have been catching up as the Asia-to-USA labour productivity ratio increased from 19% to 24% over the same period (Figure 33).

Figure 33: Comparison of Productivity in Africa, Asia and Latin America and the Caribbean to USA



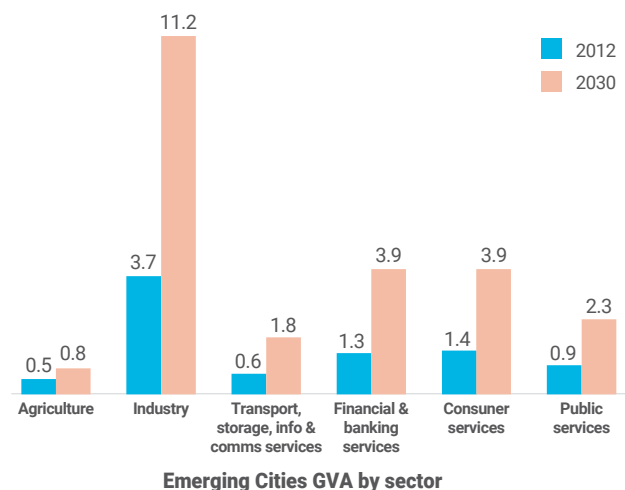
Source: EIB

If we want to enhance the financial position of cities, we need to shift the priorities towards financing the productive assets of cities, and productivity factors. Investment in industry, financial services and customers services can boost value addition most effectively for cities in emerging economies (Figure 34). Financial instruments cannot change the future of cities alone. The own source revenue mobilisation in cities can become daydreams without the enhancement of productivity and economic growth. Otherwise, cities and their citizens

simply cannot afford to pay more to the governments from their pockets. This is why many well-designed instruments just look good on paper, but do not work in reality. This is the reason why many cities in low income countries try to enhance their financial positions decades after decades, things simply do not improve. For example, in Pekalongan in Indonesia, the city's own source revenue only account for 5.9% of the total revenue; in Iwo in Nigeria, the city's own source revenue only accounts for 2.2% of the total revenue. Kenema city in Sierra Leone can only raise a total revenue of USD 0.31 per capita, while the city of Aberdeen in UK with a similar size of population to Kenema raises a total revenue of USD 5,612 per capita. The revenue per capital in Aberdeen is 18,103 times that of Kenema¹³⁹. These examples illustrate that the determining factor for revenue generation lies in the economic power of the city itself. Therefore, the foundation to raise more revenue is to improve urban productivity. Seberang Perai in Malaysia sets a good example for promoting urban productivity(see Box 7).

Figure 34: Gross Value Added by Different Categories of Economic Activities

Gross Value Added (US\$ trillions in 2012 prices and exchange rates)



Source: LSE Cities

Therefore, supporting the structural transformation of cities through better managed urbanisation and industrialisation are two sides of coins for enhancing the financial position of cities for productive and sustainable urban development. Enhancing the financial positions of cities and promoting structural transformation cannot be separated if they want to succeed. Achieving such economic growth provides sound economic foundation and power for cities to generate revenue and will increase own source revenue generation capacity of cities to finance healthy urbanisation which in turn helps improve economic and social productivity and sustainability, thus creating a positive cycle of urbanisation, productivity and finance.

Box 7: Seberang Perai Boosts Urban Productivity through Industrialisation, Improvement of Inducive Investment Environment and Infrastructure

The city government of Seberang Perai in Penang is very proactive in boosting urban productivity through industrialisation, improving infrastructure and investment conditions. The first industrial estate was established in Mak Mandin, near Butterworth. It improves the infrastructure development, and relocates Port of Penang to Butterworth and in partnership with the state government, completed several expressways to boost the connectivity of the city to the hinterlands, and therefore led to the rapid growth of manufacturing as one of the economic sectors of Seberang Perai.

On the other hand, it promotes positive urbanisation. The resulting rapid urbanisation of Seberang Perai has fueled the city's housing market; in particular, the Central District has benefited the most in terms of newly built housing units due to its greater industrial activity and the location of the Penang Bridge's terminus within the said district.



In recent years, Batu Kawan, within the Southern District, has witnessed massive transformation, with an industrial park, an international technology hub and several other mixed-development projects being planned for the city.

The improvement of Port of Penang leads to expansion of handling capacity in its container and cargo services. Today, the Port of Penang operates six cargo and container terminals around Butterworth, it is the third busiest seaport in Malaysia. This has led to the manufacturing boom in Seberang Perai, as the Port of Penang has facilitated the ease of export from the factories in Seberang Perai.

The city is very successful in attracting investment. In 2017, the investment in Seberang Perai increased by 233%.

Source: based on wikipedia

Making Effective Use of External Sources of Finance

Access to external finance varies among cities. According to the 2017 Investment Survey of the European Investment Bank, external finance represents 18% of investment finance of cities and municipalities across the EU. In Benelux, the share of external finance is over 40% whilst countries in Central Europe, South East Europe, the Baltics and Poland, the share of external finance is less than 10%. This can be related to the level of municipal finance infrastructure and capacities. The share is likely to be even lower for smaller cities because it is more difficult for smaller cities to meet certain investment criteria like minimum project sizes and their low level of revenue streams¹⁴⁰.

Improving municipal finance is a process and its mechanisms evolve over time as the circumstances of the city and the national capital markets change. Local governments need to implement sound and transparent financial management policies, practices and demonstrate the creditworthiness of their proposed projects. It is crucial that local governments focus first on getting the basic conditions and policies right by maximizing

the potential of their external resources of finance and strengthening and improving their financial capabilities and credibility. A sound financial base will enable them to access more forms of finance such as municipal development funds and pooled financing mechanisms, on possible better terms¹⁴¹. Municipal bonds are an option available to cities to raise resources for financing long term projects such as urban infrastructure development, particularly for some developed countries. Over 50,000 local governments and authorities in USA have used tax-exempt bonds to invest in three quarters of infrastructure development. Local governments have an outstanding USD 4 trillion municipal bonds in USA in 2023¹⁴². Bonds become the most important financial instrument for urban infrastructure development in USA (see Box 8).

Special Purpose Vehicles (SPVs) are widely used in some countries such as China to raise funds for urban infrastructure development. SPVs are created to isolate the financial risk from local governments. Chinese miracles in urban development and modernization of cities' infrastructure and services largely attribute to the wide use of SPVs in financing urban development. The funds raised through SPVs by local governments in China equivalent to 32.6% of GDP in 2010 and rose to 121.1% of GDP in 2020¹⁴³.

Box 8: Municipal Bonds Plays a Key Role in Financing Urban Infrastructure in USA

Introduction:

Municipal bonds are the most important form of financing urban infrastructure in United States at the city [or metropolitan] level. This financial modality was funded through general tax revenue or the anticipated income resulting from projects.

Approach:

Once the local government legislature and/or constituents approve a bond issuance, local authorities structure the bond for sale either through competitive or negotiated mechanisms. The bonds are sold to underwriters, who are security firms or investment banks that act as brokers in the municipal bonds market.

In most cases, municipal bonds are safe investments. They have had lower default rates than corporate bonds. This is the case, for instance, with municipal bond issuers of Baa credit rating estimated at 0.3 percent default rate, which is lower than corporate issuers of Aaa rating. Even during the Subprime Crisis period of 2007-2009, when counties and other municipal bond issuers had a hard time making ends meet, the municipal bonds defaults remained at low levels. From 2010 to 2013, the municipal bonds default rate was 0.4 percent (Table 4).

Rating/ Issuer	1 Year		3 Years		10 Years	
	Corporate Issuers	Municipal Bond Issuers	Corporate Issuers	Municipal Bond Issuers	Corporate Issuers	Municipal Bond Issuers
Aaa	0.00%	0.00%	0.01%	0.00%	0.50%	0.00%
Aa	0.02%	0.00%	0.14%	0.00%	0.92%	0.01%
A	0.06%	0.00%	0.41%	0.01%	2.48%	0.05%
Baa	0.18%	0.01%	0.90%	0.06%	4.74%	0.30%
Ba	1.13%	0.18%	5.44%	0.92%	19.72%	2.85%
B	4.13%	2.21%	15.29%	6.14%	42.00%	13.88%
Caa-C	16.85%	5.77%	37.21%	9.67%	69.63%	12.66%

Results:

Over 50,000 local governments and authorities in USA have used tax-exempt bonds to invest in three quarters of the U.S. infrastructure representing more than USD3 trillion. Bonds become the most important financial instruments for urban infrastructure development in USA.

Source: Authors based on National Association of Counties, Council for Development Finance Agencies

Climate Finance

For promoting sustainable urban development, another innovative way for cities is to access external finance, is through climate financing. According to the Kyoto Protocol, city governments can gain revenue from the sale of reductions in greenhouse gas emissions on the national or international carbon markets. Carbon credits can be earned from the implementation of urban development projects that reduce the emission of greenhouse gases. For example, the city of Salta in Argentina sells carbon credits that it earns from reducing greenhouse gas emissions by capturing and burning methane gas from its landfill. In Moldova, thirteen municipal governments earn revenue from selling carbon credits for insulating and improving the heating system of public buildings, because it increases the energy efficiency of these buildings and lowers the cost for heat production. Such emission reducing projects can serve as revenue generation mechanism, they can also be used to leverage finance for upfront investment from creditors or investors¹⁴⁴.

Climate finance flows for cities reached an estimated USD 384 billion annually on average in 2017/2018, of which, USD 75 billion is tracked using bottom-up, project-

level information, USD 147 billion is estimated from expenditures in urban green transport, and USD 161 billion is estimated from expenditures in urban green buildings and appliances. Most urban climate finance was invested in Western Europe (averaging USD 85 billion annually), North America (USD 47 billion annually), and East Asia and Pacific (USD 187 billion annually). East Asia investment was driven largely by investments in China in sectors such as waste and wastewater management and sustainable transport. Almost all of the estimated financing for electric buses globally took place in China¹⁴⁵.

Green Bonds

Green Bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects and which are aligned with the four core components of the GBP. Different types of Green Bonds exist in the market. Some Green Projects may have social co-benefits, and that the classification of a use of proceeds bond as a Green Bond should be determined by the issuer based on its primary objectives for the underlying projects. Bonds that intentionally mix green and social projects are referred to as Sustainability Bonds¹⁴⁶.

Green bonds raise funds for new and existing projects which deliver environmental benefits, and a more sustainable economy. 'Green' can include renewable energy, energy efficiency, sustainable resource use, conservation, water management, pollution control, clean transportation, natural resources and land management, green buildings, and adaptation to climate change, or responsible waste management¹⁴⁷. Green bond is a type of debt issued by public or private institutions to finance an environmental project or one related to climate change, and to fund projects that contribute to achieving the Sustainable Development Goals¹⁴⁸.

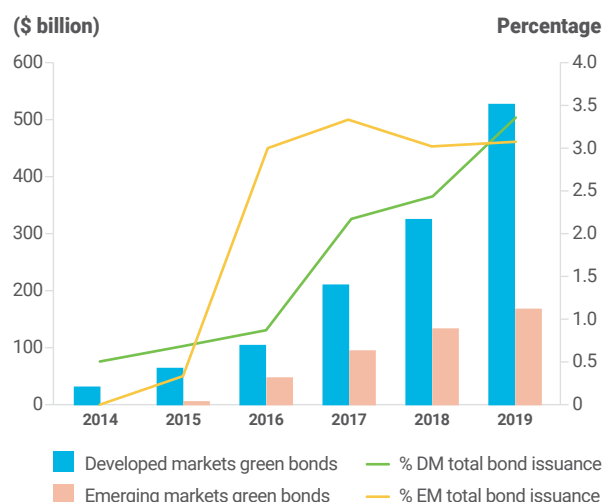
The cornerstone of a Green Bond is the utilisation of the proceeds of the bond for Green Projects (including other related and supporting expenditures, such as R&D), which should be appropriately described in the legal documentation for the security. All designated Green Projects should provide clear environmental benefits, which will be assessed and, where feasible, quantified by the issuer¹⁴⁹.

The issuer of a Green Bond is required to clearly communicate to investors: (1) the environmental sustainability objectives; (2) the process by which the issuer determines how the project fits within the eligible Green Projects categories; (3) the related eligibility criteria to identify and manage potentially material environmental and social risks associated with the projects. The issuer is required to make, and keep, readily available up to date information on the use of green bond proceeds¹⁵⁰.

Green bonds work fundamentally in the same way as conventional bonds: a bond made by an investor to an organization or firm to finance a project, with the investor receiving the principal amount at the end of the bond's life, in addition to interest payments throughout the bond's term. The key difference between a green bond and a conventional bond is the underlying project that is financed with the proceeds. Today, more than 50 countries have issued green bonds, with the United States being the largest source of green bond issuances. Global green bond issuance in 2020 was estimated to be USD350 billion, while the total green bond market size was about USD1 trillion in 2020 (Figure 35)¹⁵¹.

The World Bank Green Bond raises funds from fixed income investors to support World Bank lending for eligible projects that seek to mitigate climate change or help affected people adapt to it. The product was designed in partnership with Skandinaviska Enskilda Banken (SEB) to respond to specific investor demand for a triple-A rated fixed income product that supports projects that address the climate challenge. Since 2008, World Bank has issued approximately USD 18 billion equivalent in green bonds through over 200 bonds in 25 currencies.¹⁵²

Figure 35: Green Bond Markets



NOTE: Total bond issuance includes all sectors and non-green bonds.

Source: <https://corporatefinanceinstitute.com/resources/esg/green-bond/>

Strengthening the Role of Multilateralism and Multilateral Development Banks (MDBs)

The multilateral system has delivered major economic and social progress since mid-20th century. Partnership and cooperation between countries played a critical role in this success. The United Nations, the World Trade Organization, and the Bretton Woods organizations have been the underpinnings of the multilateral economic system¹⁵³.

The world economy is becoming increasingly complex and there are multiple global challenges, such as lackluster growth, climate change, pandemics, refugees, poverty and conflicts. There is an increasing need for a stronger, more inclusive and more innovative multilateralism. However, in recent years, multilateralism has come under difficulties. Protectionism is on the rise from the developed world¹⁵⁴.

In the urban development field, multilateralism can play an important role in promoting sustainable development. Cities which develop faster are often those building good global and regional connections and partnership. For example, the Asian Tiger economies benefits greatly from multilateralism and global and regional investment. World Bank finances an average of USD5 billion in projects on sustainable cities and communities every year to help cities meet the critical demands of urbanisation. The active portfolio stands at 231 projects amounting to USD33.9 billion, through a combination of instruments, including investment project financing, policy development loans, and Program-for-Results funding¹⁵⁵.

Facing the increasing urban challenges, we need stronger and better multilateral institutions to support cities. However, the UN and MDBs face increased challenges and limited financial sources. Major MDBs faced significant under-funding. For example, in 2011, IBRD had subscribed capital of USD 298 billion but had only USD 20 billion paid-in capital; Inter-America Development Bank had USD 177 billion of subscribed capital but had only USD 6 billion paid-in capital (Table 10). This is why UN Secretary-General in his 2023 SDG Stimulus asked to increase capital for MDBs which need new capital and instruments to cope with the scale of global challenges and to better manage major global threats and risks, and to promote sustainable development in cities and countryside across the globe. MDBs need increased financial firepower through an expansion of their balance sheets and a stronger orientation around promoting sustainable development and achieving the goals set in the 2030 Agenda and the Paris Climate Agreement¹⁵⁶.

MDBs can help countries to leverage private capital at scale through new, innovative investment vehicles and platforms to complement public investment¹⁵⁷.

MDBs are increasingly leveraging other sources of finance, particularly private sector co-investment. Assistance from MDBs would additionally help cities address their social and environmental needs. It can also be an important driver in attracting and complementing private sector investment¹⁵⁸. MDBs normally finance only a portion of total project cost, mobilizing additional investors through syndications and other pooled funding structures. Their finance, along with the accompanying structuring, advice and risk mitigation, helps crowd in additional project finance. When MDBs invest in new areas or in high-risk environments there is an important demonstration effect that can lead to additional projects and new investors.

Table 8: Capitalisation of Selected MDBs, 2021

Capitalization of select multilateral development banks, 2021 (billions)

Institution	Existing Paid-in capital	Callable capita	Subscribed capital	Existing assets & loans
IBRD	\$20 billion	\$279 billion	\$298 billion	\$227 billion
African Development Bank	\$14 billion	\$194 billion	\$208 billion	\$32 billion
Asian Development Bank	\$7.5 billion	\$141 billion	\$149 billion	\$140 billion
Inter-American Development Bank	\$6 billion	\$171 billion	\$177 billion	\$110 billion
TOTAL	\$47 billion	\$785 billion	\$831 billion	\$509 billion

Source: UNSG's SDG Stimulus, 2023

International organizations strategically maximize their resources by engaging governments, the private sector, and other stakeholders to catalyze meaningful change. UNDP and UNDESA jointly help countries to develop Integrated National Financing Frameworks (INFFs) as a tool to finance national priorities and operationalize the 2030 Agenda for sustainable development and the Addis Ababa Action Agenda at the national level. National Development Plans lay out the national development priorities. Integrated national financing frameworks spell out how the national development plans and their sustainable strategies will be financed and implemented¹⁵⁹. UN-Habitat and UNDP partner on financing sustainable development at the city level, and jointly develops cost estimates for achieving SDG 6, 7, 9 and 11 at the national level, with a focus on human settlements and engineering perspectives of SDGs and build links between the financing needs of different levels of territorial development, and financing the localization of SDGs. UN-Habitat in partnership with KfW Development Bank, Inter-American Development Bank and Shelter Afrique provides technical assistance on Financing for Resilient and Green Urban Global Solutions (FRUGS) and assess the conditions, challenges, demands and instruments of sustainable and resilient urban development finance at the city level, and identify and develop bankable projects for resilient and green development in cities.

BRICS are increasingly playing an important role in the international arena. With the addition of six more countries in 2024, BRICS represents 42 percent of the world population and 36 percent of the global GDP. In comparison, G7 has 10 percent of the world population and 27 percent of the global GDP. BRICS as the economic bloc of the Global South have better understanding of challenges and needs and conditions of the developing countries and can be in a better position to identify innovative and practical paths to sustainable urban development which are more suitable to the realities and conditions of developing countries. The New Development Bank will have more injected capital to meet the demands of developing countries for sustainable urban development. Asia Infrastructure Investment Bank, as a niche financing platform for infrastructure, is increasingly addressing the bottlenecks of infrastructure investment gap in developing countries.

Enhancing the Financial and Technical Capacities of Cities in Preparation and Implementation of Investable Projects

Many cities, particularly in low income and low middle income countries, lack of technical and financial capacities to prepare and manage investable projects. City governments are in the forefront of project

implementation, they require adequate technical and financial capacity to ensure the success and quality of project delivery. Investors often find that small and median-sized cities are lack of bankable projects, because local governments do not have adequate capacities to prepare bankable projects.

There is a need to improve project preparation and project appraisal to enhance the viability of urban projects, to improve the financial management and efficiency to ensure stable and predictable revenue streams which can enhance the bankability of projects. Project preparation should include key metrics of financial analysis. Capacity building in project structuring and evaluation tools and financial and economic appraisals will help cities in preparing viable projects. Well-structured projects can be developed using the indexed revenue escalation model that considers the time value of money in the project life cycle. There should be adequate mechanisms built into the project to address the operations and maintenance requirements of the asset¹⁶⁰.

Improving demands for finance must be included in a comprehensive approach to unlocking financing for cities by helping cities translate their visions into investment

projects. Development partners have already set up a variety of project preparation facilities to support these endeavours but more needs to be done in this regard, particularly at the project identification stage to ensure that cities can develop infrastructure projects that respond to their citizens' preferences and also attract financing. More broadly, however, the focus needs to shift from supporting individual bankable projects to establishing and investing in pipelines of transformative ones. This will help ensure that non-commercially viable projects that provide significant social benefits and positive externalities receive adequate consideration. Development partners will have to deepen their cooperation to leverage their expertise and work together with cities – firstly by developing pipelines and then ensuring their implementation¹⁶¹. They can help cities to build capacities to develop 'investor ready' project pipelines, identified projects within a larger spatial and economic development plan, with sound technical feasibility studies and an enabling institutional environment to attract investment. UN-Habitat helps cities, particularly small and median-sized cities, to prepare investable project pipelines, project feasibility studies, and capacity building through City Investment Facility in addition to other finance initiatives.

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UN-HABITAT

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME
P.O. Box 30030, Nairobi 00100, Kenya
unhabitat-info@un.org
www.unhabitat.org

   @UNHABITAT

