THE PUBLIC WEALTH OF CITIES

How to Turn Around Cities Fortunes by Unlocking Public Assets

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If you either live or work in New York City you get used to things being crowded — sidewalks, shops, streets, buses, trains, buses — pretty much everywhere you go there are people with you. Presumably it is the same in most other large metropolitan areas as cities are increasingly becoming places where people want to live. Although overall city population growth averages less than 1% in the U.S., what has been different recently is that the infrastructure in the city itself has aged, leading to an increased perception that the city is more crowded – subways feel more crowded as old signal equipment failures lead to train delays, overdue maintenance on roads and bridges leads to road congestion and increased traffic jams and commuter trains are running ‘standing room only’ into urban train stations that are at capacity.

In our 2016 Citi GPS report Infrastructure for Growth, we found the total global need for infrastructure spending was $58.6 trillion over the next 15 years. At the same time that report noted the world had an enormous infrastructure investment deficit with infrastructure spend as a percentage of GDP falling to around 3.3% - below what we viewed as a necessary level of 4.1% of GDP by 2020.

Dag Detter and Stefan Fölster had previously argued in a Citi GPS report The Public Wealth of Nations that one of the ways nations could find money for infrastructure projects is by putting their public assets to work by managing them better and accounting for them on their national balance sheets. In their new book The Public Wealth of Cities, they update their argument to focus on cities, noting that most cities in the U.S. are facing an impending investment disaster, with a crisis in physical investment as well as a lack of funds to invest in the development of social and human assets.

But there are standout cities that are doing much better than others and in fact can pull their countries along towards better growth and social development. These “turbo cities” have made canny investments that make their daily operation cheaper, more effective, and sometimes even yields a direct return. This gives economic muscle for further investments. The secret to turbo cities is that they make the value of their long-term investments more transparent and visible and make evidence-based decisions at arms’ length from day-to-day politics.

Detter and Fölster advocate three steps for cities to move towards turbo cities: know your assets, allow more professional management of city assets, and shift expenditures from consumption to investment. They find that the best way for a city to manage commercial assets is to put them in a commercial holding company, an Urban Wealth Fund, which allows it to act professionally as if it were a publically-owned private equity fund.

In addition to walking through the argument presented by Messrs. Detter and Fölster, we present commentary from Citi’s Special Economic Advisor Willem Buiter on why this solution makes economic sense, as well as commentary on its effect on the municipal bond market and from a Public Sector perspective, how it will help address the infrastructure investment gap.
Moving from Wobbling ‘Treadmill Towns’ to Booming ‘Turbo Cities’

The total value of public commercial assets is roughly equal to global annual GDP and greater than total global public debt.

The value of public commercial assets — assets able to generate an income if managed properly — excluding roads, but including toll roads, national forests, and historic buildings, is estimated to exceed $75 trillion.

The current estimate for global public debt is $54 trillion.

Every penny generated through an increase in yield from a portfolio of commercial assets is a penny less to find from budgetary cuts and/or tax increases.

A higher return of just 1 percent on $75 trillion of public commercial assets would add some $750 billion to global public revenue.
THREE STEPS TO MAKING ASSETS WORK

1. Create a proper balance sheet which includes public commercial assets, social assets, and human assets.

2. Produce a comprehensive business plan that shifts resources from consumption and short-term fixes to long-term investments.

3. Allow more professional and independent management for better yield or results, i.e. an Urban Wealth Fund.

BENEFITS OF PROFESSIONAL ASSET MANAGEMENT THROUGH AN URBAN WEALTH FUND

- Transparency
- Clear objective of value maximization
- Political Independence
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“Every city (and other government entities) is sitting on a gold mine, with commercial assets worth the equivalent of at least each city’s own GDP. Publicly owned real estate alone normally represents about a quarter of the total real estate market in a city."

– DAG DETTER, THE PUBLIC WEALTH OF CITIES
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An Economist’s Perspective
The Public Wealth of Cities – An Economist’s View

Back in 1983, Willem Buiter argued that governments needed to have a clearer picture of their total balance sheet and should construct a “comprehensive balance sheet” and include all assets and liabilities of the State, including commercial and non-commercial assets as well as central bank assets. He noted that even partial success — and the recognition of what information is still missing, and preventing the completion of the comprehensive balance sheet — can inform the policy debate and improve the accountability of the State and its agents.

In the essay below, Dr. Buiter reiterates his view that a comprehensive balance sheet is the best way for the State to assess their fiscal space, and he evaluates the proposals that Dag Detter and Stefan Fölster put forward in their new book *The Public Wealth of Cities* including the utilization of an Urban Wealth Fund to help cities effectively manage their real commercial assets.

Real Commercial Assets in the Comprehensive Balance Sheet of the Government

There is now widespread recognition that conventional measures of the public sector budget deficit, the public sector debt (gross or net) and the public sector financial balance sheet provide very unsatisfactory guidance to the amount of fiscal space the authorities have at their disposal. Fiscal space is the ability of the fiscal authorities to cut taxes and/or boost public spending, and finance any resulting increase in the government deficit without putting at risk the fiscal/financial sustainability of the government or even, in the most extreme case, risk default.

There is, in principle, also widespread agreement that the right framework for analyzing fiscal/financial sustainability and fiscal space is the intertemporal budget constraint of the State or the comprehensive balance sheet of the State – the consolidated general government and central bank – and lower-tier governments. I contributed to some of the earliest formalizations of the comprehensive balance sheet of the State (see Buiter (1983a,b)) and was rather surprised to see the government of New Zealand putting a determined effort at implementing the rather demanding and abstract principles and rules for constructing a ‘real’ comprehensive balance sheet (see New Zealand Treasury (2014)). The intertemporal budget constraint or comprehensive balance sheet of the State includes all liabilities and all financial and real assets of the State (on-budget and on-balance sheet as well as off-budget and off-balance sheet). When the comprehensive balance sheet is used as a tool for assessing fiscal space (also sometimes called the solvency gap), the assets are valued as the present discounted value (PDV) of current and future expected net cash flows – at fair value.¹ The liabilities, in contrast, are valued as the PDV of future contractual payment obligations – at contractual value.²

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¹ According to IFRS13, the definition of fair value is “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date”.

² To calculate the amount of fiscal space the government has (or to calculate the solvency gap of any economic entity), liabilities should be valued as the PDV of the contractual commitments, not as the PDV of what is actually likely to be paid by the issuer of the liability. Following the IFRS/IASB international accounting standards (IAS), or the International Public Sector Accounting Standards (IPSAS), “fair value” valuation of liabilities (which will be market value when the financial instrument is liquid and traded in
Contingent assets and liabilities (like deposit insurance or guarantees for student loans) should all be included. In addition to all financial and real assets and liabilities, the comprehensive balance sheet also includes the PDV of all public spending commitments and of all current revenues (taxes, profits from state-owned enterprises etc.).

Unfortunately, States have focused on including off-balance sheet unfunded liabilities in their comprehensive balance sheets.

Outside New Zealand, the application of these sound principles has, unfortunately, been very partial, patchy, and often contributing more noise than insight. Most of the focus has been (no doubt for good political economy reasons) on including off-balance sheet liabilities, properly valued contingent liabilities, and the PDV of future unfunded benefits paid by the public sector, including social security retirement and the pension and health benefits of public sector employees. This has frequently resulted in extremely large ‘augmented’ or comprehensive unfunded liabilities for the public sector and occasional panics about the utter lack of fiscal space that these appeared to imply.

In their book, *The Public Wealth of Nations*, Dag Detter and Stefan Fölster (2015) pointed to the unrecognized bright side of the comprehensive balance sheet of the State: the unrecognized value of the (real) commercial assets owned by the State. Such public commercial assets are economic assets or operations that generate non-tax revenue or could do so if properly structured, managed and used. It excludes real and potential (in a different universe) commercial assets for which, for good reasons (Yellowstone National Park, Central Park, the Acropolis) or bad reasons (much of the real estate owned by the NHS) there is no reasonable prospect of commercial, value maximizing management.

On the positive side, real commercial assets owned by the State that generate non-tax revenue (or could) should be part of the comprehensive balance sheet.

Reasonable estimates of the value of these real commercial assets can be truly massive.

Note that the comprehensive balance sheet is a hard-nosed business construction. It only captures the present discounted value (PDV) of future net cash flows – not the PDV of human happiness. A hard-nosed comprehensive balance sheet is an essential tool for the effective pursuit of human happiness, but the ultimate purpose(s) should not be confused with the accounting instrument or tool.

Reasonable estimates of the value of these real commercial assets owned by the State can be truly massive. For many countries they exceed the value of the gross financial liabilities of the general government (see Detter and Fölster (2015, p. 53) and Detter and Fölster (2017, chapter 5, p. 126)). Their estimate of the global value of these real commercial assets (in 2015) of around $75 trillion is as astounding as it is convincing; paraphrasing the late Senator Everett Dirksen “A trillion here, a trillion there, pretty soon it adds up to real money”.

I view this contribution as entering a key missing component in the comprehensive balance sheet of the government, shown in Figure 1 for a local authority, like a city or county.
The comprehensive net worth of a city cannot be negative. That is the condition that avoids insolvency of the public entity. Fiscal space is measured by the comprehensive net worth of the city when real commercial assets are competently managed, current and future local taxes are at the highest politically, socially, and economically sustainable level, and current and future public spending is at the lowest politically, socially, and economically sustainable level.

Detter and Fölster (2017) revisit the vital issue of the real commercial assets of the State in their new book: The Public Wealth of Cities. It points out that lower-tier authorities like cities and counties often own most of the real commercial assets of the general government. That certainly was complete news to me. They also show that these assets are often very poorly managed. This is partly because there often isn’t even a comprehensive list or inventory of all real commercial assets of the city. Even if there is such an (incomplete) list or inventory, these real commercial assets are almost never properly valued and entered into the public sector balance sheet.

My reading of The Public Wealth of Cities has taught me that there are two quite distinct possible valuations of these real commercial assets. The first is the PDV of future net cash flows under current management practices. This valuation can be negligible or even negative. The second is the PDV of future net cash flows under competent, operationally independent, transparent, and accountable management, implemented under a new institutional and legal arrangement called an Urban Wealth Fund (UWF). The difference can be massive. The PDV of the net cash flows of a decrepit city office building in a highly desirable part of town can be negative (if the current use were to be perpetuated) when the office building is used to accommodate city workers engaged in activities that don’t require a prime location. Relocating the city office activities to a less extravagant location and either selling the old office building (privatization) or maintaining public ownership but putting in place competent management, at arms’ length from day-to-day political interference, tearing down the old office block and building either commercial or residential accommodation more in tune with the prime location, could result in a huge potential financial gain for the city.

Through the UWF, Detter and Fölster propose an institutional/legal innovation – akin to local public wealth funds that invest only in real commercial assets – to improve the quality of the management of these assets and thus boost their value and with it the economic well-being of the ultimate beneficial owners of these assets: the local citizens and all those who benefit from the amenities of the city.
Social and Human Assets

The recognition of and investment in social and human assets is necessary if a city is to remain or become a “turbo city” rather than a “treadmill city.” The Public Wealth of Cities, in addition to operationalizing the notion of accounting for and effectively managing real commercial assets at the level of the city or county, contains a second innovation: the insistence on the recognition of and investment in social and human assets if a city is to remain or become a “turbo city” rather than a “treadmill city.” Differences in the quality of the management of and investment in social and human assets accounts for much of the difference in performance of failed cities like Detroit, Michigan, successful cities like Austin, Texas and cities that bought themselves a new lease on life after going through a difficult patch like Pittsburgh, Pennsylvania.

A failure to invest in social and human assets will ultimately show up as a decline in the value of assets that are explicitly recognized on a city’s balance sheet. Although it may not be practical to recognize and value entries called ‘social capital’ or ‘human capital’ on the comprehensive balance sheet of a city, a failure to invest in these assets will ultimately show up as a decline in the value of assets that are recognized explicitly (such as ownership claims on entities invested in residential or commercial real estate), a decline in a number of revenue flows (e.g., local property taxes or local income taxes) and/or an increase in expenditure flows (e.g., policing costs, social assistance outlays, cleaning and maintenance costs) that are not normally capitalized in city balance sheets.

Social assets include the quality of institutions — private (churches, synagogues, mosques, temples, gurdwaras, civic associations, clubs, and unions) and public (including the competence and effectiveness of local public administrations) — social norms and attitudes, functioning and successful schools, a strong work ethic, and a common sense of civic responsibility for safety, littering, and loitering (‘neighborhood watch’). Human assets are the skills, knowledge, interpersonal skills, and entrepreneurial drive and talent that make people valuable as workers, entrepreneurs, community leaders, or political leaders.

Sometimes the reasons that manifest differences in social and human assets are hard to pin down. Accidents of history and the sudden reaching of collective-behavior-altering critical mass may be part of the explanation. Why do cars in some cities (New York), but not in others (London), enter intersections knowing that they will not be able to exit before the lights turn, thus causing massive and easily avoidable congestion? Why do bicyclists in some cities (New York), but not in others (anywhere in the Netherlands) ride on the wrong side of the road, go against the direction of the traffic in one-way streets, routinely go through red lights, and ride on pavements and other areas reserved for pedestrians?

In some cases the reasons may seem clear. No one litters in Singapore (and no one used to litter on the Autobahn from West Germany to West Berlin) because no one littered. The behavior in question was illegal and the laws concerned were enforced quite rigorously and had become part of the collective ‘acquis culturel’. But that really begs the question. The behavior of New York drivers and bicyclists described in the previous paragraph is also illegal. The legal prohibition, however, is not enforced, although other legal prohibitions are. The appropriate behavior also has not been internalized. There may be a critical mass or tipping point configuration such that, once a certain fraction of, say, cyclists ignores the rules of the road because they truly don’t believe they make sense, the rest of the cyclists, including those who firmly believe that the rules make sense, develop a ‘can’t be bothered’ attitude: my adherence to the rules really makes no difference to the wider community — there are no ‘externalities of good citizenship’ I can reap by adhering to the rules (see Malcom Gladwell (2000)). This is version of the free rider or collective action problem (see Mancur Olson (1971)).
We can think of social and human capital, as defined above, depreciating over time unless sufficient resources are spent on repairs and maintenance. Part of the necessary repairs and maintenance resources have to be provided for and funded publicly. The rest may, however, have to be provided privately and can at most be funded partly out of public funds. The private provision of public goods and services is as problematic as the public provision of private goods and services.

These social and human assets are not directly represented in the comprehensive balance sheet of Figure 1. They do, however, lurk behind some of the key entries in that balance sheet. On the asset side, the PDV of current and future local tax receipts will depend on the quality of life in the city and the quality of the infrastructure. These co-determine a city’s locational attractiveness to businesses and to households, including higher-income and higher net worth individuals.

On the liability side, the PDV of current and future spending on real goods and services includes spending on law and order, education, and social services. It also includes care for the homeless and other marginalized and vulnerable groups like victims of domestic and/or sexual violence, abandoned children, recently discharged former convicts trying to re-integrate into society and earn an honest living, and people with drug, alcohol, or mental health problems for whom ‘care in the community’ means being dumped in the street and left to their own devices.

Better educational standards will lower crime and reduce the need for future spending on policing and on homelessness.³ A community that does not put up with littering and graffiti (except, in the case of graffiti, in designated areas to be visited by Banksy) will have to spend significantly less public money on cleaning and maintaining common spaces. Social capital and human capital are productive inputs into activities that boost tax revenues and lower necessary public spending on real goods and services.

The Sustainable City

Elsewhere in this publication, there is a contribution to our understanding of the necessary and sufficient conditions for a city to be sustainable — sustainable, that is, at a high level of economic performance and human wellbeing; after all, death is sustainable. Adequate social and human assets and continuous investment to compensate for the depreciation of these assets and, where necessary, positive net investment in their augmentation are a sine qua non for achieving a sustainable city, in addition to first-rate infrastructure and a diversified local economy. First-rate public amenities like parks, playgrounds, and sports facilities are necessary to retain the most economically successful residents of the city, who also tend to be the most geographically mobile. Central Park in New York City not only contributes to the tax base of the City of New York by boosting the valuation of adjacent and nearby properties and thus the property tax base, but large numbers of productive and income tax paying citizens living in Manhattan and even in the other boroughs are residents there in part because their quality of life is augmented by the presence of this incredible public amenity.

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³ I recognize there is a free rider problem here: an attractive, pleasant city will also attract homeless people. This collective action problem can only be addressed at the state or even central government level, not at the local level.
Good and affordable schools are a major driver of household locational decisions. Cities where a police officer tends to be perceived as “one of us” — a defender and guarantor of the rights and safety of residents and visitors — have a higher quality of life and a greater retention capacity of productive citizens than cities where the police are viewed as “them”. Cities where the homeless don’t have to sleep on grids to keep warm during the winter and where there are effective programs for boosting the economic independence of the homeless are better places to live for everyone.

The "production function" of the sustainable city includes social and human capital as two key inputs — both of which tend to have their importance underappreciated. There are, however, forces determining the degree and cost of sustainability that are not under the control of the city but have to be resolved at the state/provincial, national or even supranational level.

All factors of production in a city — labor, capital, and entrepreneurship — are mobile. Tax payers are mobile. They can and do move in response to the economic incentives and quality-of-life-incentives faced by those making the locational decisions. These decisions often are based not just on the consideration of the lifetime economic and quality-of-life returns of the adult population, but on the conclusions drawn by the adult population based on the results of a cost-benefit analysis of staying vs. leaving that allows for the interests of future generations.

Locational decisions that affect the cost base of a city are often made by parties living outside the city. When I lived in New Haven, CT as a graduate student and faculty member in the 1970s, 80s, and 90s, the superior (or less inferior) quality of New Haven’s program for helping addicts and the homeless was ‘rewarded’ by some of the surrounding (and richer) suburban communities rounding up their homeless and their drug and alcohol addicts and dumping them on the New Haven Green. This amounts to externalizing an internality, because the surrounding communities did not share in the cost of providing for the homeless and addicts in New Haven.

These matters cannot be resolved at the level of the individual city. Rules have to be made and enforced for the entire ‘domain of mobility’ relevant to a city, both for inward and outward mobility. In the U.S., this means at the state level or even at the federal level. Inevitable legal and constitutional constraints limit what can be achieved. For instance, the fact that public pre-school, primary, and secondary education is funded at the local level rather than at the state or federal level means that little can be done to maintain the quality of local public education when the population of the city or county ages and votes to spend more on facilities for the old than on facilities for the young (see Tosun et. al. 2009).

Cities are open systems with the potential for two-way flows of people, businesses, not-for-profit organizations, and public amenities. Only the local or internal drivers of the incentives to move or stay are under the control of the individual city. Cooperative solutions or delegation of certain powers to higher-tier governments are necessary to achieve fully efficient outcomes.
Why Not to Get Hung Up on Privatization

One way to realize the value of the real commercial assets of a city is to privatize them. There are circumstances under which this would maximize the financial benefit to the city. Even if this were to be the case, there will often be strong political resistance to privatizing real commercial assets. Fears that the ‘family silver’ will be sold at a discount to its fair value will almost always be present and will often be strong enough to prevent a sale to a private entity. Such fears are at times justified even if all those involved in the privatization process are competent and honest. Often it is very hard to get an estimate of the fair value of a real commercial asset. ‘Routine’ real estate, that is, real estate for which there is an active market in similar properties can be priced quite easily. But idiosyncratic or unique real estate (derelict docklands, a large tract of riverfront property or a disused football stadium) does not have an active liquid market whose prices can provide effective guidance for the privatization target.

It makes more sense in that case for the city to retain at least the “freehold’ of the property in public ownership. In that case the city would, in the vision of Detter and Fölster, transfer the ownership of the property to an Urban Wealth Fund that would make the decision on how the property is to be developed. The development process itself would typically be managed by professionals recruited from the private sector. Once the (re)construction is completed, further business decisions will have to be taken on whether the city will sell long-duration leaseholds in the property or will remain an active landlord, renting out the property for residential or business use through shorter-term leases.

If a sale can be arranged at a fair price – one that reflects the fair value to the private buyer – and if the fair value of the real commercial asset under private ownership is higher than under continuing public ownership, privatization would make economic sense. However, if it makes no political sense, there is no point in crying over spilt fair value. Instead, a determined focus on achieving the most effective management under public ownership, through the Urban Wealth Fund, becomes the constrained best outcome: efficient public management beats inefficient public management. In addition, private ownership is obviously no panacea for getting incentives for value maximization right, especially in large organizations. Aligning the interests of managers with those of diffused shareholders often is a daunting task. In principle it is no harder to make remuneration, job security, and promotion functions of long-term profit performance (a proxy for value) when the city is the only shareholder than when there is a diffuse private ownership. How to achieve the best possible management of publicly-owned real commercial assets is central to the Public Wealth of Cities.

It is important to recognize that certain real assets owned by the city are not real commercial assets in the sense that proper management – the one that maximizes social value – inevitably involves operating the assets at a loss, even if they could be run at a profit. Among these are assets used in activities characterized by increasing returns to scale or decreasing average costs. Local public transport, especially if it is subject to peak-load usage problems, is an example. Fixed costs are high and the marginal cost of moving an additional passenger is often negligible. Charging a price that covers long-run average cost (including a contribution to capital costs) results in suboptimal use of the public transport network. While charging long-run marginal cost results in a loss. Such non-commercial real activities, and the real commercial assets they involve, have to be subsidized – funded in part out of tax revenues and profits from the operation of real commercial assets. Of course the running of the trains, trams, and buses, and the maintenance of tracks and stations can be subcontracted to private concessions.
Airports are examples of publicly-owned real commercial assets where private management through concessions is common. It is hard to think of any good reason why the provision of ‘airport services’ should be public. Public ownership of the airport ‘freehold’ and public funding of the capital expenditure (possibly shared with the owner of the private concession to manage the assets) is often politically mandated.

And Now the Hard Part

The **Public Wealth of Cities** has a highly practical orientation. It proposes institutional, organizational, legal, and other innovations and arrangements that could enable a city or other local governments to realize the potential windfall from the effective management of real commercial assets.

Three fundamental principles of professional urban asset management are recognized as: transparency, a clear objective, and political independence. I will discuss them in reverse order.

The first rule is to get the real commercial assets out of the domain of day-to-day politics and political interference. That requires a legal organizational structure — the Urban Wealth Fund mentioned earlier — that is at arms’ length from the city government. The purpose is to maximize the PDV of the net cash flows, that is, of the profits of the UWF. It is not to maximize the powers of patronage of the political leadership of the city (or indeed of the management of the UWF). It is not to provide lucrative employment to the no-good nephew or niece of the mayor.

Stating this obvious requirement of political independence means recognizing the difficulties that are likely to be encountered in achieving excellent management of a city’s real commercial assets. There are powerful reasons why many urban real commercial assets are managed so badly or not actively managed at all — they may not even be included in a comprehensive list or inventory of such assets, let alone valued fairly. There are political insiders and their cronies who benefit from this substandard management under conditions of opaqueness. Rents are being extracted that, while much smaller than the profits that could be generated under professional, arms’ length management, can be much larger than what the current beneficiaries would receive under transparent, accountable and professional management. So warning #1 is: be prepared for a serious political struggle. The established order will warn that ruthless profit-oriented businessmen (or even persons with experience in the financial sector) will appropriate the commercial assets of the city and expropriate the citizens in the process. The most effective counter is to commit to and guarantee complete clarity and transparency about the objective (long-term profit or value maximization) and full accountability.

The clear objective of Urban Wealth Funds should be value maximization or long-run profit maximization.

Clear objectives are simple objectives or indeed a single objective: value maximization or long-run profit maximization. The UWF should be managed as a business. The human and social benefits, tangible and intangible, only come when these current and future profits from the proper and professional management of the real commercial assets of the city either are spent, in a manner determined by the normal, legitimate political processes on goods, services, transfer payments, and social benefits that augment human wellbeing, or used to cut local taxes. That is why only commercial real assets should be part of the UWF’s mandate. This is not about the management of Yellowstone, Central Park, or the Acropolis, although even there greater professionalism – cost minimization subject to a performance constraint (access by the public, maintaining the treasures of the past for current and future generations, rescuing the diversity of the fauna and flora etc.) – would not come amiss.
Transparency and accountability are key to performance and political legitimacy, without which the UWF cannot survive as intended. Accounting using IFRS/IPSAS principles (other than the valuation of the liabilities...) and regular independent audits is key. The city (or cities, if the venture involves more than one city) is the sole shareholder. The city is the agent of the people – the ultimate principal. The UWF is the agent of the city tasked with managing the people’s real commercial assets. Its purpose is to maximize their value. This value can then be used as an alternative to local taxes or remittances from higher-tier governments to fund any expenditures or tax cuts the people, through their elected representatives, prioritize.

My personal hope is that among these priorities in U.S. cities would be infrastructure, education, policing, homelessness, drug and alcohol abuse, and mental illness. But the people are sovereign and could, if they so wish, decide to cut local taxes instead. An effectively managed UWF and other key characteristics of effective economic management, like investment in social and human assets, create fiscal space. The people decide how to use this fiscal space.

Detter and Fölster explain how cities can relax the intertemporal budget constraint that they labor under. The focus now must be on actual implementation in real cities. Pittsburgh, Boston, Austin, Charleston, Salt Lake City, Washington DC – here we come!
The Public Wealth of Cities
The Investment Trap

Most cities in the U.S., but also in other countries, face an impending investment disaster. Promising plans for city development and infrastructure are put aside. Too often even the most necessary repairs lack funding. With the national government adrift, many states hostile or encumbered, and local municipal finances often saddled with obligations, public resources for investments in infrastructure and services are deeply constrained.

The crisis is much wider than just physical investment. Many cities are unable to invest in promising social development and training for those of their citizens that are at risk of being left behind by globalization and automation. One stark warning sign is the decreasing life expectancy of lower income white men in many U.S. cities. In many much poorer cities around the world too many live in squalor, and public investment in utilities and basic services is sorely amiss.

Worldwide there are close to 4,000 cities with a population above 100,000 inhabitants, comprising about 1.5 billion people. In many of these physical and social underinvestment is striking. Countries that have too many faltering cities stagnate.

In spite of the many eyesores that meet city strollers, urban agglomeration is often hailed as one of mankind’s most important fulcrums for human development. But some cities do not pull their weight, while others buck the trend and spearhead human and economic progress. They have turned their back on poverty and crumbling infrastructure. They invest in smart solutions that improve lives at lower cost.

These cities become growth engines that boost their inhabitants and their country, even when national governments fail them. Some cities provide ladders for their inhabitants where others are full of trap doors and chutes. The difference between the ladders and the chutes are so glaring, and so important for the children that grow up in them and therefore for human development, that understanding what they do is tantamount. In fact, helping more cities to build social and economic wealth may be the most promising route to national success. After all, essentially all currently rich countries were initially pulled along by successful cities leading the way, and many still are.

Our book *The Public Wealth of Cities: How to Unlock Hidden Assets to Boost Growth and Prosperity*, which this report is based upon, starts with a fresh look at what separates wobbling “treadmill towns” from blooming “turbo cities”.
In contrast, turbo cities have, at least in periods, invested in their economic, social, and human assets, and keep developing them. Like investors, they can often flourish on the yield from previous good investments. As they continue to unlock their assets and put them to good use they become engines for growth and their citizens’ quality of life.

A focus on asset governance makes all the difference for a cities´ success. In fact, we claim that widespread use of these principles could self-finance a remarkable boost in infrastructure investment, perhaps even doubling it. On top of that, a canny asset strategy can increase household incomes by much more than, say, minimum wage laws ever can, and mitigate many of the social ills that plague too many cities.

The coming decades offer cities an extraordinary menu of investment opportunities in digital technology. Some can render enormous value, not just in cutting administrative costs. According to some studies, social costs for people in need of care could be provided with higher quality and at two-thirds of current cost with the smart use of digital technology. Local transportation with self-driving cabs could cut free a quarter of road space, which is often owned by cities and is very valuable. Establishing thriving innovations hubs in cities can boost incomes and tax revenue.

But these opportunities are the nuggets in a menu that also contains many duds – technologies that don’t work, do not spread, or are implemented poorly. Only cities with a professional approach to asset management will be able to take advantage of the vast opportunities.

To some city leaders a focus on unlocking public wealth may come naturally. For most it does not. But city politics, administrations, and institutions can be shaped to develop a knack for governing public wealth. We offer a practical guide of how to develop a city’s social, human, and economic assets, and how to design professional governance of city assets. In fact, we argue that less political meddling in the governance of public wealth actually strengthens democracy.

Cities do many things. Each has its array of flagship programs, awards, showcase projects, and slogans trying to propound unique selling points. Alas most cities also have a plethora of financial black holes, deadbeat programs, and political stalemates. This concoction is frustratingly difficult to interpret. Are all the good initiatives sufficient to compensate for the mishaps? How can one even tell?

While the net effects of a city’s recent policies are hard to judge, it is easy to see that some cities are blooming and others are not. Some keep both their citizens and their finances healthy and wealthy, without closing doors to newcomers. In others, debts pile up and some neighborhoods deteriorate while others become unaffordable to most. We argue in this report that there is a dividing line between winning cities and tottering ones that is rarely formulated explicitly. Yet it is quite intuitive and similar to the difference between success and stagnation for individuals or corporations.

For most people, born without a silver spoon in their mouth, early years of life demand an emphasis on gaining both employment and a wage. Part of this income is set-aside over time and accumulates into assets. Later in life, the importance of a person’s savings, aka their balance sheet, grows. The quality of housing, ability to invest in their children’s’ education, and their ability to handle shocks hinge more on their accumulated assets and returns than on their current income.
A focus on building assets in early life and managing them well makes a difference for individuals. Some people are much better at building assets — and not just because they have higher incomes. In a popular book *Rich Dad Poor Dad*, Robert Kiyosaki and Sharon Lechter argue entertainingly that a focus on building assets early in life and managing them well to earn a return makes a big difference for peoples’ ability to move from the "rat race to the fast track", that is moving from consuming out of current wages to having more of their consumption covered by asset yield.\(^6\) Having been raised by two fathers, Kiyosaki compared two different approaches to life. His educated dad advised him to work for a wage. His rich dad advised him to consume little and invest more and end up paying wages to employees. Both life paths required education, but the subjects of study were completely different. His educated dad encouraged Robert to be a knowledgeable person. His rich dad encouraged Robert to know how to invest wisely, hire smart people, and use the right tools.

...and for corporates

A similar logic applies to companies. For example, many of today’s multinational retailers were able to build up a vast portfolio of real estate assets to serve the expansion of retail outlets. As the retail industry is shaken up by globalization and online retail, these legacy firms can fall back on their real estate cushion when necessary to revamp their business model and prosper again.

Cities also have assets they can develop and rely on

This logic also shapes the fate of cities. Even poor cities usually sit on a gold mine of assets that are not being used well or developed. Cities that have a good understanding of the assets they own in the form of municipal firms, utilities, and real estate and govern them well to help develop the city and earn a return can spend and invest more without raising taxes; rather like Wall Street working for Main Street rather than the other way around. They will not be shaken by recessions or pension debt that can push less well organized cities to the brink of bankruptcy.

Cities rarely have a good understanding of the assets they own or manage them with an eye to their long term value

This may seem more than obvious. But in fact, cities rarely have a good understanding of the assets they own. And they rarely manage them with an eye to their long term value. Yet this makes all the difference.

Investing in social or human assets today can lower costs in the future

Assets are not just money in the bank or real estate, but can also be social or human assets. A city that makes the right kind of long term social investments can face lower costs twenty years down the line. For example, an intensive program to help school beginners at risk of dropping out may reduce social costs due to unemployment, crime, or drug addiction decades later. Such a delay between social investment and social return will be easily accepted in a city that focuses on the value of its assets, but risks being axed in cities that focus on making ends meet during the coming budget year.

A focus on assets changes how a city thinks of education

Similarly, a focus on assets changes how a city thinks of education. Rather than counting years of schooling or the share of college-educated, the important question becomes what value citizens’ knowledge and skills have. That shifts the focus to the quality of education, to how well knowledge matches employers’ demand, and to how more employers can be attracted to a city that demand the skills that inhabitants have.

Some very successful cities around the world (i.e., Singapore) have built public economic, social, and human wealth out of proverbial sand, without help from circumstances such as natural resources or economic trends, while their surroundings remained poor. While cities are affected by their surroundings and vicissitudes, they are not slaves to it. Their fortunes are largely of their own making.

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\(^6\) Kiyosaki and Lechter (2000).
Today, a comparison of Singapore with Jamaica appears completely unreasonable, even though both small countries became independent from Britain in the same year and were initially equally poor.

Some cities sit on a gold mine of public assets…

Some cities, like all local governments, sit on unexploited gold mines way beyond the obvious well-known official buildings in the city center, or operational assets such as the local airport, harbor, and railway station, or utilities like water and electricity. Underneath this tip of the iceberg, cities usually own ecosystems of less obvious real estate assets, often portfolios of buildings for now outdated needs, such as telephone exchanges, post offices, or administrations that should be automated and on the Internet today. Undeveloped land and brownfield spaces, if professionally managed, can be shaped up into attractive and valuable assets, as could the land around and above railway tracks and stations.

…and cities are often much wealthier in terms of public assets than nation states

Cities are often much wealthier in terms of public assets than nation states, but these holdings remain strangely opaque and largely ignored. U.S. cities are home to more than 90 percent of the country’s GDP and vast portfolios of commercial assets, greatly in excess of their debts — the $3.7 trillion ‘municipal’ debt market. Even poor cities own large swathes of poorly utilized real estate, utilities, and other commercial assets.

Instead of focusing on ownership of assets, it’s time to start focusing on the quality of asset management

We don’t propose a sneaky way to open the door to turning museums and libraries into amusement centers, or converting City Hall into a bowling alley. A polarized debate over the past century pits privatization against nationalization. Instead of this phony war about ownership, it is time to focus on the quality of asset management.

Achieving a reasonable yield on publicly-owned commercial assets could free up more resources than current investments in infrastructure

Developing city real estate and other assets is also an indispensable tool for creating human and social value: Fostering innovation hubs instead of decaying city centers and providing a healthy mixture of high- and low-cost housing, instead of segregated communities while fostering proximity instead of long-haul commutes. These are dimensions of city development that turn out to make a big difference to the life prospects of many city dwellers.

Our calculations suggest that achieving a reasonable yield on publicly-owned real estate and other commercial assets could free more resources than total current investments in infrastructure, including roads, railroads, bridges, water, electricity and broadband put together. In other words, most cities could double their investments in infrastructure with the smarter use of their commercial assets. Unlocking public assets should be a core urban strategy.

Cities Are Nations Locomotives

Dysfunctional national governments have become a cliché across the developed economies in Europe and the Americas. Often unemployment, inequality, poor schooling, housing, or health care emanate from political failures at the national level. Even in rich countries like the U.S., faith in the political system and the social contract appears to crack in the face of actual social deterioration such as the remarkable decline in life expectancy of white men. In spite of a healthy recovery from the financial crisis, the U.S. employment rate remains considerably lower than it was in 2000, in fact lower than that of France coupled with low productivity growth. Many economists point out that the kind of national policies that are important for growth and social progress have not been reformed much in decades.
Cities are also hostage to these national policy failures. Therefore, much of the research literature has focused on the effect of nations and national policy on growth and development. For example, Acemoglu and Robinson recount vividly in their famous book *Why Nations Fail* how the town of Nogales is poor on the Mexican side of the border and relatively much better off on the U.S.-side of the border.\(^7\)

Yet such illustrative comparisons also miss an important point. The people that live in and run their cities in many respects form their own living and working conditions. Some cities can actually find creative ways to break free from the shackles of national policy. City-states such as ancient Athens and Sparta, or medieval Florence and Venice have always had to rely on their wit and economic acumen to survive and prosper in hostile environments.

Therefore, it should be no surprise to find fairly well-off and destitute towns close to each other within the same country. For example, Detroit is often described as a city that was hit by deindustrialization and therefore lost half its population. Yet many other cities that were hit by deindustrialization have adapted more successfully, such as Akron, Albany, Raleigh-Durham, Minneapolis-St. Paul, and Portland in the United States, and Eindhoven, Malmo, Dresden, and Oulu in Europe. A more accurate diagnosis of Detroit is that it is an extreme example of a city that did not stop digging when it found itself in a ditch. Many of its inhabitants moved to more successful suburban cities that surround Detroit. The overall population of the larger urban area has actually changed little over the past few decades.

If the U.S. had been dominated by cities that acted like Detroit, its overall growth may have turned out to be more like Italy’s. There, GDP growth and incomes have flat-lined over the past two decades as too many cities seem incapable of fixing even basic services such as garbage collection. In fact, recent studies that we will review later make a convincing case that cities that build their social and human assets experience significantly better employment and income growth by lifting their current inhabitants, not just by attracting high income earners from elsewhere.

Surprisingly, some cities with impressive economic growth still contribute little to national U.S. growth, according to a thorough recent study.\(^6\) The reason for their disappointing contribution to national growth is that these cities grew more by attracting already successful people and putting them to work in high productivity industries. But they performed way below potential in terms of lifting middle income or poor people into jobs with higher productivity. National GDP would be nearly 10 percent higher if cities like New York, San Francisco, and San Jose developed their assets in ways that made themselves more accessible to normal income groups to the same extent as the median U.S. city.\(^9\)

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\(^7\) Acemoglu and Robinson (2012).

\(^6\) Hsieh, Chang-Tai and Enrico Moretti (2015). According to this study almost half of aggregate U.S. growth was driven by growth of cities in the South. Many of these are not hubs for industries with the highest productivity, but they provide an environment where many newcomers are offered better jobs than they had before and there is an ample supply of housing.

\(^9\) In recent years, however, some cities in Florida and California are making up for lost growth, see e.g. De Vol, Ross Minoli Ratnatunga, and Armen Bedroussian (2015).
Even booming cities could often do more for national growth. For example, Stockholm, the capital of Sweden is doing well by most measures, but could compensate even better for smaller towns’ faltering industrial growth. Their traditional manufacturing firms are reeling from the world’s most demanding environmental and labor regulations and highest marginal income tax, which has left Sweden’s industrial output trailing far behind that of its main trading partner, Germany. But this has been more than compensated for by a booming IT-sector in Stockholm that is left happily unfettered by environmental and union demands. Stockholm, with just a fifth of the country’s population, contributes half of the country’s productivity gain and is the fastest growing metropolitan area in Europe.\(^\text{10}\)

This is not just a large city effect. The other two larger Swedish cities are doing noticeably less well. The main reason for Stockholm’s leading edge appears to be that many of the municipalities that make up the Stockholm region also top the league in providing good schooling and a good business environment. Yet, their main failing is an unwillingness to open for enough building of new residential housing. Without that brake on growth, Stockholm might be Europe’s answer to Silicon Valley, and would contribute even more to overall national growth.

The drag on national growth due to cities that do not live up to their potential is even much larger in countries like Italy, where many cities impose a burdensome bureaucracy on top of national regulations. In another country, India, many cities seem willing to do what is needed to boost growth, but Indian democracy lodges too much power at the state rather than the city level. States governments are often dominated by the choices of rural voters, leaving cities less room to control their own destinies.

Some argue that the rapid growth of cities is mainly an agglomeration effect with size favoring faster growth, rather like a natural law. In fact, research on the role of cities has largely focused on so-called agglomeration effects. Studies both in developed and developing countries find that wages and productivity do rise faster in larger cities.\(^\text{11}\) Causality of course goes both ways. Some cities grow larger because they are better organized and more innovative. These cities attract more workers, in particular the most productive ones.

But size is hardly the most important factor. In fact, many large cities are not overachievers in economic vibrancy. A recent World Bank study finds that cities vary enormously when it comes to their economic performance.\(^\text{12}\) Twenty-eight percent of cities grow more slowly than their countries, while the top 10 percent of cities increase GDP almost three times more than the remaining 90 percent. The report finds that this is no accident. Cities that drive national growth take a host of constructive initiatives that slowly-growing cities do not.

In sum, some cities can do much better than others, and in fact can pull their countries along toward better growth and social development. Successful cities seem to be able to compensate for many of the policy errors that their national and federal governments indulge in. Thus, national growth and quality of life hinges on prospering cities.

So how do thriving cities do it?

\(^\text{10}\) Tillväxtanalys (2014).
\(^\text{11}\) In many studies a city that is twice as large in population offers wages that are 2 to 10 percent higher, see e.g. Duranton (2014).
The Turbo City

Given the widely varying fortunes of cities one might expect a large body of research literature that provides clear evidence and recipes for turning cities around. Alas this research is miniscule. Most narratives about cities’ success are based on anecdotal evidence, not actual research.\(^\text{13}\)

Academic economists have often been guided by a presumption, perhaps prejudice, that national policies determine growth and development with only a marginal role for local policies. We think this is a questionable stance, as noted above.

More importantly, the nexus between a city's policies and how well it is doing turns out to be unexpectedly difficult to prove statistically. One source of confusion in the attempt to understand the true causes and effects is that as with a self-playing piano, the music continues to play once the mechanism has been cranked up. A city that has built its assets at one point in time can surf on that wave for years or decades. When it comes to cities “There is nothing like success to breed success”. Assets continue to generate a yield, even in periods when their management or city policies are less inspired.

Our term for this is a turbo city. A turbo engine uses energy from its exhaust to help inject fuel into the cylinders, rendering the engine leaner and more powerful. Similarly, a turbo city makes canny investments that make its daily operation cheaper, more effective and sometimes even yields a direct return. This provides economic muscles for further investments.

For example, a town that has managed to attract some high-tech start-ups, may see these grow for decades thereafter, attracting more tech-wizards that start more firms. Similarly, a city that at one time has fostered many local entrepreneurs, finds that these provide good examples, entrepreneurship know-how, and capital to young people starting new firms.

As another example, a city which has managed to establish social norms that are positive to education and adherence to the law has "social assets" by which citizens influence each other. Parents emphasize law-abiding behavior to their kids. Neighbors keep an eye on each other. Crime rates remain under control.

All these things build up over long periods of time and take on a life of their own. Cities that succeed in this way have lower costs for social services and employment services. They may earn higher tax revenue. If the economic competence of their citizens spills over to city administration they may find it easier to maintain good programs and put the city firms, utilities, real estate, infrastructure, and other wealth to good use and manage pension funds well. Putting all this together they can maintain better services with lower taxes.

Such a city is a humming engine with an unstoppable momentum. City politicians really have to kick and abuse it to make it stop running.

\(^{13}\) Storper (2008) shows in detail why empirical studies have provided so few insights. Apart from the long time lags, specialization, human capital and institutions are all endogenous explanations of growth with recursive relationships that are difficult to disentangle.
The Treadmill Town

Quite the opposite happens in a city on the brink of ruin. Debts have piled up and pension liabilities and budget costs skyrocket in relation to income from taxes and assets. Taxes need to be raised to pay bills, without improving service. People with better options move out, which further erodes the tax base and depletes entrepreneurial talent. Higher unemployment and crime rates render high costs in social programs just to handle acute situations.

Such a city finds itself in a treadmill. It has to work hard just to make ends meet. There are no resources to invest in big changes. A city in the treadmill is also a fragile city. When a treadmill town does try to mend its ways it finds that things get worse before they get better. Closing the budget shortfall and paying down debts may require cuts in services that make the city less attractive in the short run. This may erode political support for reforms and push the city back onto the treadmill.

These mechanisms also explain why researchers have found it so frustratingly difficult to show which policies actually lead to better outcomes. The actions that turned one city into a turbo city and forced another onto the treadmill may have been taken many years earlier. Even for voters the nexus between good policies and city success remains opaque.

But it’s not just the time lag. The key issue is that a city’s success largely depends on whether it has accumulated assets that remain productive over time. One can think of a human settlement by a creek that provides drinking water. The dwellers can drink when there is water, but their existence is fragile. The creek can dry up and force them to move or fetch water from afar.

Now suppose the dwellers build an asset, i.e. a water reservoir where they accumulate water. Now they are less dependent on what the creek provides any particular month. Even more important, the reservoir provides additional yield in the form of fish and water management that allows some irrigation of fields as well.

This, in a nutshell, illustrates the secret of turbo cities. The assets they have and put to good use not only keep them in good financial shape, even in periods when they do not do anything particularly enlightened, but they may also reap additional benefits such improved health and social well-being of its people.

So, what are these assets? The easiest to define are the economic assets. We define two types of economic assets, commercial and policy assets depending on how they are funded. Policy assets are funded by taxes, while commercial assets are those that can conceivably render a revenue stream, managed properly. Commercial assets described in the box below.

Equally important are two types of non-economic assets that have a crucial impact on cities’ finances and their citizens’ well-being. These are social assets, which provide ladders rather than chutes for people’s health, ambitions, and happiness, and thus minimize the social afflictions that often make life more difficult even for citizens and strain city budgets; and the value of skills or knowledge which we call human assets, which are crucial for individual’s economic independence and municipal tax revenue. In the box below we define social and human assets more precisely.

Social assets are social norms, attitudes, and functioning institutions and city structure that reduce the incidence of crime, homelessness, addiction, and other social ills. Social assets can have very large effects on lowering a city’s costs and making the city more attractive to employers.
There are multiple examples of how municipalities have shaped up investment in human and social asset management and have been richly rewarded. For now, just consider an instance of rare experimental evidence that arose in southern Sweden in the early 1990’s. At the time tens of thousands of people fled from the pernicious civil war in former Yugoslavia. Large numbers of Bosnian refugees arrived in Sweden during 1993 and 1994. During those years arriving refugees were more or less randomly assigned to different municipalities rather than being allowed to choose where they wanted to live. This created an unusual natural experiment that made it possible to measure how different municipal environments affect refugees’ integration and employment. It turned out that after a few years the employment rate for Bosnians differed sharply in the different towns. Some 80 percent were employed in municipalities that score highly on the measures of social and human assets.

There are many examples where municipalities have shaped up investment in human and social asset management and have been richly rewarded.

In other municipalities, that scored low on social and human assets, as few as 10 percent of Bosnians managed to enter employment, even in large and growing cities. As a result these towns faced much higher costs for welfare payments as well as lower tax revenue. That made it even harder for them to escape the treadmill.

But towns and cities are not slaves to circumstance. They can change their fortunes.

14 This case study is described in Ekberg and Ohlson (2000).
From Treadmill Town to Turbo City

Most cities can point to creative initiatives and impressive programs to improve. Alas, not all of them work. And most cities also support an array of dysfunctional policies that undermine the good work. To succeed, a city needs sufficient amount of good policies to more than weigh up the less-inspired ones.

Anecdotal narratives point to New York or Chicago where competent mayors and their administrations have achieved significant improvements in important areas. But it remains disputed how much different policies contributed to success. For example, how exactly New York’s remarkable reduction in crime rates was brought about is still very much a matter of contention among researchers.

Often successful cities do not bother to try one thing at a time. Instead they do many things, one or more of which might work at the same time. Unfortunately, turning a city around in this way is not that common. Few cities are blessed for long with a combination of evidence-based leadership and voters that give them carte blanche. More commonly city politics plays out more like dancing the tango – two steps forward, one backward and one sideways.

In particular, investments with long-term effects are easily axed to fill acute short-term holes or to satisfy powerful interests or groups of swing voters. Yet it is precisely the long-term investments that can lift a city from a treadmill town to a turbo city. Therefore, the strategy we advocate is all about making the value of long term investments more transparent and visible, and making better use of professionals that make evidence-based decisions at arms’ length from day-to-day politics.

Our strategy is simple. It consists of three steps.

1. Know your assets (be they economic or non-economic);
2. Allow more professional management for better yield or results; and
3. Shift resources from consumption to long term investments.

First, know your assets. Few cities have a balance sheet and of those that do, few have one that reflects the true value of their commercial assets. The first step in creating a proper balance sheet could be the preparation of an annual review, such as has been done by an increasing number of national governments that want to demonstrate an overview of their portfolios, including market value and yield. This creates awareness among the general population and thus the political support to take the next step, despite potential protests from interest group that might benefit from a status quo that is maintained by hiding a proper understanding of a city’s commercial assets. The next step to improve transparency is a more comprehensive and audited consolidated annual report that would clearly show the true wealth of the city. The quality of reporting and transparency should ultimately be in line with the best of any listed company on the stock market, as this portfolio is truly a public asset.

Every penny generated through an increase in yield from the portfolio of commercial assets is a penny less to find from budgetary cuts and/or increase in taxation.
One might think that a city's non-economic assets are not easily measured. But our approach is to find simple measures that may not represent the best "true" measure of value, but that capture value changes well and that work operationally. For example, in theory, social assets might be valued in terms of the present value of expected social expenditure costs. One might, more correctly, call this "social debt", although such forecasts are uncertain and require much expertise. There are techniques that make it easier for city administrators to assess the value of social assets.

Similarly, there are tools for making investments that raise the value of human skill assets transparent and useful in city politics. The wage income per person of working age captures reasonably well how employers value citizens' skills and knowledge. But these are greatly influenced by factors that can be measured separately such as school quality, educational matching, and business climate improvements.

**Second, use more professional and independent management of city assets.**

We claim that this can be done more systematically, and without relying on exceptional politicians. The key is to strike a better balance between politics and day-to-day governance.

Some municipal administrations have a natural knack for asset development. For example, the historic center of London and the location of much of the U.K.'s financial sector is actually called The City of London Corporation. This urban corporation claims to be the world's oldest continuously elected local government body. Here both businesses and residents are entitled to vote in elections. The City of London Corporation is just one of the 32 boroughs that make up the greater metropolis of London, but has an unusual professionalism in its approach towards its assets and finances, using a balance sheet to better manage its portfolio of assets. Its professional approach mirrors that of the much larger and well-known successes of modern city-states in Asia, such as Hong Kong and Singapore.

A modern version of the City of London Corporation that we advocate for any city is to move its commercial assets into an Urban Wealth Fund, where these assets are governed by professionals with some independence from day-to-day politics. As some of the successful development projects in London illustrates, this may also facilitate joint development with surrounding local governments that all too often fall victim to political haggling. A professional negotiation between Urban Wealth funds of neighboring municipalities to exploit a common interest is much more likely to succeed. In some cases, several municipalities or boroughs may even decide to become part owners in a common Urban Wealth fund, to help manage and fund assets that cross administrative boundaries, such as bridges, roads or are shared for reasons of scale, such as airports and ports.

But even social and human assets stand a much greater chance of flourishing if city politicians devolve responsibility to professional governance, rather than being involved in many details. That gives politicians much greater leeway to formulate citizens’ requirements rather than meddling with operational details. Democracy will actually improve.

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15 Katz and Bradley (2013) provide a fascinating description of the rivalries between local governments in the Denver metropolitan area, and what it took to overcome some of them.
Cities have been built to invest in the future of their citizens through a mix of investments by a broad range of public, private, and civic investors.

Third, shift expenditure from consumption to investment. Cities have been built to invest in the future of their citizens — in schooling and skilling, in quality social interaction, and in enduring infrastructure to move people, goods, energy, and ideas. Cities do these things through a mix of investments by a broad range of public, private, and civic investors. The urban stakeholders are networks of institutions and individuals: homeowners, universities, hospitals, philanthropies, private businesses, utilities. For example, the rebirth of entire sections of Detroit is being led by an eclectic consortium of philanthropies like the Kresge Foundation and corporations like Quicken Loans.

Yet, in reality, short-termism is a constant threat. In order to help cities make wise choices on long-term investments it is important to embrace an intellectually formulated strategy that emphasizes the use of evidence to make informed investment choices. This will automatically tilt investments away from short term fixes and will help cities take account of the fact that their success is not just a function of their current spending, but of the stock of social, human and economic wealth that they accumulate. It will also help experimentation with new instruments like social impact bonds or regional venture funds — that give city networks the market intelligence to make smart decisions.

In sum, cities can be nations’ locomotives if they build their assets and make them pay off, or they can end up as millstones around nations’ neck if they fail to invest themselves off of the treadmill.
The Crisis in City Investments

Many U.S. cities face an impending investment disaster. Promising plans for development and infrastructure remain on paper because of fiscal constraint. Even the most pressing infrastructure restorations are postponed due to the lack of funding. With the federal government restructuring spending, state governments encumbered, and local municipal finances saddled with obligations, public resources available for investments in infrastructure and services are becoming increasingly scarce.

There is a way to end this investment shortage. The solution is in the management of the wide range of public commercial assets owned by each city, a tool that has been largely untapped in U.S. cities. Every city possesses a multitude of commercial assets including operational assets like airports, ports, utilities supplying water and electricity, etc., and real estate assets like publicly-owned land and buildings. These assets currently represent large sums of foregone earnings because of their underutilization and poor management. This is not about privatizing public assets or pursuing dilutive public private partnerships that passes public wealth disproportionately to the private sector.

Achieving a reasonable yield on publicly-owned real estate and other commercial assets would free up more resources than most cities' total current investment in infrastructure, including roads, railroads, bridges, water, electricity, and broadband. In other words, most cities would be able to increase their investments by more than double through wiser use of their commercial assets. Unlocking the value of public assets through improved management is a powerful alternative to spending cuts, increased taxes or further public debt.

The idea behind managing public assets more professionally is neither about surreptitiously repurposing a museum and library into an amusement center nor converting City Hall into a bowling alley nor about the undue transfer of public wealth to the private sector. Governments’ ownership of vast commercial assets has for the last half century triggered a polarized debate that pits privatization against nationalization. Instead of this misguided debate about the ownership of public assets, we argue for a focus on the quality of their management to support the public agenda. It should be noted that the combined wealth of cities held in their public assets is several times larger than that of their national governments, but this wealth remains opaque and largely neglected.

A crucial first step is achieving a proper understanding of the city’s balance sheet. With this list of assets in hand, taxpayers, politicians, and investors can better grasp the long-term consequences of political decisions and make choices that increase returns rather than taxes, debt, or austerity. Efficient management of city assets through our proposed institutional structure — the Urban Wealth Funds — designed to break free from short-term political influence will enable cities to ramp up important resources to fund much needed infrastructure investments.
Cities generally do not assess the market value of their economic assets, but even a rough calculation can help illustrate the great economic importance held by public assets.

Consider a city like Boston, which at first glance does not appear to be particularly wealthy. The city reported a total assets value worth $3.8 billion in 2014, of which $1.4 billion is real estate. Although the city’s liabilities of $4.6 billion exceed its assets, it still largely underestimates the true value of its public assets. Like most U.S. cities, Boston reports its assets at book value, valued at historic costs. If reported using the International Financial Reporting Standards (IFRS), which require the use of market value for assets, the assets’ worth would be significantly higher than what is currently reported.16 In other words, the city is operating without fully understanding or leveraging its hidden wealth.

A value estimate of the real property portfolio in the City of Boston made from a consolidated list of publicly-held real estate alone and an estimated defensible value has given an indicative valuation of the real estate alone to be around $55 billion. The Boston city administration and political leadership do not know the value of this ratio and therefore are not in a position to fully measure the magnitude of the opportunity cost by leaving these assets undermanaged. If they had the proper visibility, they would get a sense of the urgency to develop these assets shrewdly.

Accounting for the market value is the first step toward quality asset management. The next step is to understand the yield or return that the city earns from revenue and rising market values on its assets. This is key to be able to compare it with other alternative investments, but also to understand whether the performance has been satisfactory, and show stakeholders that their wealth is responsibly cared for.

By design or by default, Boston does not report any return on its assets. Assuming, again very cautiously, that the city could earn a 3 percent yield on its commercial assets with more professional and politically independent management of these assets, on a portfolio worth $55 billion, almost $1.7 billion of income could be generated a year. That is almost four times more than Boston’s current capital plan of about $400 million. In other words, even with a modest yield, Boston could quadruple its infrastructure investments.

Boston is by no means exceptional. It represents a common scenario across U.S. cities, and in fact internationally, of public wealth trapped in real estate and other commercial assets that are not optimized.

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16 IFRS requires market value for financial instruments and realizable non-current assets, but not for plant, machinery and equipment.
Towards Professional Management in Cities

Commercial assets owned by governments are a virtual (and in some cases, literal) goldmine and they extend far beyond the obvious visible assets like official buildings, the local airport or railway station, or utilities. Underneath this tip of the iceberg is an ecosystem of less visible assets. Many pieces of this vast portfolio — such as buildings for large telephone exchanges and post offices, or just vast spaces for administrative paperwork — predate the arrival of technology that made their purposes obsolete.

There are three steps to create a fund to manage public commercial assets:

1. **Promote transparency:** Compile a list of assets and conduct an indicative valuation of the portfolio of assets that will allow the production of an informal review of the portfolio and the attraction of public support for professionalizing the management of the portfolio.

2. **Set-up the institution:** Incorporate the fund, transfer all assets, and appoint a professional board and auditors so that the government can fully delegate the responsibility and accountability of the management of the portfolio.

3. **Actively manage assets:** Produce a comprehensive business plan for the portfolio as a whole and for each underlying segment, such as real estate and operational assets, to understand how to put each asset to its most productive use, revealing the opportunity cost of using the asset in a sub-optimal way.
Cities that have successfully mapped their real estate will find thousands of assets made visible, far beyond the well-known public building. All these assets can be optimized and generate greater value through a more professional management, even stranded assets may be revived with the right approach in place. A return on capital can be achieved through commercialization and optimization, and ultimately through rationalization.

Commercialization requires that a comprehensive business plan makes an assessment of all assets, including those assets that are unused, used by third parties, or directly used in the provision of public services, but that can either be (1) relocated to more cost-effective/beneficial locations, or (2) used to generate ancillary income (e.g., through additional/alternative use of real property and exploitation of publicly owned intellectual property).

Optimization requires economies of scale to be achieved across the entire portfolio and should be as much of a priority as maximization of yield from each individual asset.

Rationalization involves determining mature assets, which are those that have reached a fair value and where the proceeds from a sale can be reinvested in assets that are capable of yielding a higher return. Mature assets could be disposed of at the relevant point in the market’s cycle, as part of the broader business plan for maximization of yield across the entire portfolio. Monies generated from rationalization activities should be first made available as a source of funding for achievement of the business plan and ultimately to fund infrastructure investments.

Even common public buildings can sometimes find ways to improve value for all stakeholders involved. Consider the example of a school located in the city business district, where land has extremely high market value. This land is being used for an activity that, though socially important, could be located a couple of blocks away on much cheaper land — perhaps to the benefit of the students’ learning — and this relocation would release the land occupied by the school for use with the highest market value. Such a change would no doubt be welfare-improving because it would raise city income while giving the government the possibility to build an equivalent or better school with the revenue from developing the more valuable property. This model has been successfully rolled-out by the Hamburg Hafen city fund which has developed several education facilities such as Katharinen primary school & HCU HafenCity University.

Such opportunities abound, but are often not taken advantage of because the political and administrative institutions overseeing the assets are not geared towards exploring avenues to generate greater value. Achieving successful outcomes requires these activities to be shielded from political influence.
Unlocking Value – International Examples

A few cities or city-states have been very successful in setting up independent and professional holding companies and Urban Wealth Funds (UWFs) to manage their commercial wealth and help funding infrastructure investments.

Hong Kong

Hong Kong’s fast growing economy prompted a study, released in 1967, that suggested formation of a public transport company. This led to creation of the MTR Corporation (originally, Mass Transit Railway Corporation) in 1975. The corporation is a sector-focused Urban Wealth Fund managing an integrated rail transit system that owns rail infrastructure, the adjacent land, as well as much of the real estate. It runs the subway and rail system in Hong Kong. Although listed on the local stock market in 2000, the government remains the majority shareholder. MTR operates a predominantly rail-based transportation system comprising domestic and cross-border services, a dedicated high-speed airport express railway, and a light rail system.

MTR has funded and managed vast infrastructure investments and is also a major property developer that helped to significantly increase the delivery of new residential homes in Hong Kong. Many of its stations are incorporated into large housing estates or shopping complexes. Residential and commercial projects have been built above existing stations and along new line extensions. So far it has successfully developed the property over about half of the system’s eighty-seven stations, amounting to 13 million square meters of floor area. New projects being planned or developed will add another 3.5 million square meters.

MTR pays a substantial dividend to the city, providing an income for the government that has been deployed to pay off existing debt and develop other assets.17

Figure 5. Real Estate Development by MTR in Hong Kong
Development of a 416,000m² total floor area, including office towers, retail areas, deluxe hotels, and transportation interchange

Figure 6. Leasing of Two IFC Office Started in 2003 (monthly rental per square foot lettable, HK$)

Source: Citi Research

Copenhagen

Copenhagen’s By og Havn I/S (City & Port) is another sector Urban Wealth Fund established by the city of Copenhagen in 2007 with 5 percent participation from the national government, to develop a number of specific urban districts. It is the largest UWF and urban development project in Europe, with a total area of 520 hectares, the result of a number of mergers of several development companies and real estate assets owned by the local and national government. This includes waterfront districts in the Copenhagen harbor area totaling 210 hectares, as well as the land locked Ørestad-district of some 310 hectares between the city center and Copenhagen Kastrup airport.

The successful development of these districts will enable the company to contribute more than 33 thousand new residential housing units, 100 thousand work spaces and a new university for more than 20 thousand students, as well as new parks, retail, and cultural facilities.

With the financial surplus from its operations, City & Port has been able to help fund part of the extension of the local metro system as well as other infrastructure investments required by the developments and the city. It does this through a direct dividend as well as with investments in the various projects.

London

London Continental Railways Limited (LCR) was originally set up in 1994 as a holding company for the European Passenger Services to build the Channel Tunnel Rail Link from London to Paris. Having divested itself of the actual rail link, the company is now a segmental UWF with a primary focus on property development and land regeneration, such as the area around King’s Cross Station in London.

The decision in 1996 to move the Channel Tunnel Rail Link, connecting Paris and London, from Waterloo to the St. Pancras railway station, next door to King’s Cross, became the catalyst for change. It prompted the U.K. government to develop the King’s Cross site through an independent holding company, with Argent, a U.K. property developer, acting as the partnership’s asset manager.
King’s Cross has always played a vital role in the commercial life of the capital. The 27 hectare development has a total of 8 million square feet of gross floor space of mixed-use development, including 3 million square feet of new work space, about 500 thousand square feet of retail, cafés, bars, restaurants, and leisure facilities, and up to 2 thousand new homes, a new university, and a range of educational, hotel, and cultural facilities.

Many of the old Victorian buildings around the site, including the Great Northern Hotel, have been refurbished and reopened. Organizations such as Google, Louis Vuitton, Universal Music, Havas, and the University of the Arts London have chosen to locate here. New public squares, gardens, and parks have opened, as well as restaurants, shops, and cafés. By 2020 up to 50,000 people will be studying, living, and working in King’s Cross. In 2015, LCR sold its 36.5 percent of its shares to AustralianSuper for the equivalent of $400 million.

LCR has other development projects including the $2.6 billion International Quarter project in Stratford, centered on Stratford Regional and International Railway Stations in East London.

**Figure 8. King’s Cross Development in London**

Source: LCR
The Importance of Transparency and Independence in the Urban Wealth Fund

The best way for a government to manage commercial assets is to put them into a commercial holding company, an Urban Wealth Fund, and allow it to act professionally as if it were a publicly-owned private equity fund. The fund would be managed at arm’s length from short-term political influence in a transparent, accountable manner using the relevant private-sector accounting and management practices. These financial vehicles are a perfect compromise: they keep public assets under government ownership while simultaneously preventing undue short-term political interference. The government appoints the auditors responsible for the portfolio and decides on the dividend target and the list of assets that could eventually be sold when sufficiently developed but has no influence over how the fund itself is managed. This strict separation is the key to improved asset management.

Separating the management of commercial assets from the short-term political cycle fulfills at least two important objectives.

First, the Urban Wealth Fund allows the government to solve the issue of its inherent inability to take on commercial risk without having to resort to outsourcing transactions, privatizations or Public Private Partnership (PPPs) structures, many of which turn out to be suboptimal for taxpayers as illustrated by Chicago’s unfortunate parking meters privatization deal. In each of the PPP and the privatization models, the private sector is agreeing to finance an asset and take on the commercial risk tied to managing it. In exchange, private actors require a high premium — a cost that will be borne by the taxpayers or the users. By the nature of its set-up, the Urban Wealth Fund relieves the government from bearing the burden of commercial risk while keeping the assets under public ownership.

Second, the ability to use a proper balance sheet allows for much closer alignment of the life cycle of the assets with the management of investments. The initial costs of an asset, such as design and construction, are usually only a fraction of the total cost over its entire life, with the main costs consisting in maintenance and operations. As such, unlocking public assets’ value requires adopting an investment perspective that extends way beyond a political cycle in order to ensure proper asset optimization. When the political calendar interferes, spending on assets maintenance competes with spending on education, healthcare and other social investments that are systematically prioritized, as they are more popular among voters. Spending valuable taxpayer money on the maintenance of assets when the benefits are not visible can be politically risky — unless there is a balance sheet in an institution like an UWF to demonstrate that you have used the money wisely, it is difficult to prove the money used has increased net wealth.

Increasing transparency on what a city owns is a crucial first step in creating awareness of a city’s assets. There is great value in creating awareness about the very fact that the city owns a whole range of commercial assets that are not visible. As such, a crucial first step would be to publish a lighter version of transparency in the shape of an annual review, an unaudited brochure highlighting the total value and yield of the entire portfolio of commercial assets. The newfound awareness would then set the grounds for a discussion around the establishment of the Urban Wealth Fund.

18 The Lithuanian Gov Annual Review of Commercial Assets could serve as an example.
Our proposals extend beyond the governance of just commercial assets. An Urban Wealth Fund with sufficient independence from governmental control could be permitted to rebalance its portfolio and not only help finance infrastructure investments but also act as the professional steward and anchor investor in newly formed infrastructure consortia. This could turn an Urban Wealth Fund into a great boon to investment in much-needed infrastructure.

Reinventing City Democracy

Around the turn of the millennium a protest movement erupted in many western cities claiming community ownership of public spaces and resistance to corporations, globalization, cars, and a diverse bag of other perceived threats. Underlying these protests was also a feeling that many cities do not live up to their task of enabling their inhabitants to carve out a high quality of life.

This protest movement fizzled out and may be mostly forgotten, largely because it provided few solutions to how cities can be governed better. We strive to formulate a recipe for success in a city that has rarely been formulated coherently, even though successful cities around the world have discovered some of the ingredients. We argue that cities do well that manage their wealth wisely — social wealth, intellectual capital, and economic assets. Those that succeed provide an exceptional quality of life for their inhabitants, and act as a magnet for newcomers.

Our examples have come from cities all over the world. We argue that even though cities face different challenges at different stages of development, successful governance principles are pretty much the same. In fact, some cities that started out poor, but governed their assets wisely, are now wealthy and still served well by the same principles.

In many of these cities leaders have had an intuitive understanding of what it takes. But this, often tacit, insight has been harder to spread to wider groups of city politicians and administrators. A good first step to wider implementation is to train its administrators in the asset-based approach and the necessary tools, perhaps along the lines of the Peak Academy in Denver.
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But better information and training may not do the trick alone. Cities that focus on becoming "rich" in social, human, and economic assets, rather than trying to make ends meet may need to find institutional forms where city politicians formulate goals, overall directives and the interests of the consumer and voter, while leaving as much as possible to independent and professional management of the city's assets.

Our argument is that delegation of tasks to more independent, professional, organization, such as an Urban Wealth Fund, not only can turn a treadmill town into a turbo city, but that it can actually improve democracy as well.

Consider first the case of a previously dysfunctional city that was saved by turning the elected major into a political independent.

Castro’s Three Lonely Years

In the late 1980’s Bogotá, the capital of Colombia, was in a state of chaos. The corrupt and dysfunctional local administration had no way of managing its social and economic problems, and Bogotá was ranked as one of the worst cities in the world to live in. In 1986, Virgilio Barco Vargas, at the time president of Colombia — and previously the mayor of Bogotá — lamented, “Of that booming city that I governed, today all that is left is an urbanized anarchy, tremendous chaos, immense disorder, a colossal mess.”

The turning point arrived when Jaime Castro, a reform-minded lawyer, was elected mayor of Colombia’s capital. Corruption in Bogotá seemed beyond help, but Castro had a unique quality: At the age of 53 he was willing to sacrifice his political career to create order and stability. After a legislative change the mayor could only stay in office for one term. Hence, while Castro had only three years to mediate the situation, and was strongly committed to enacting change, he also knew that he could afford to be unpopular. In essence, this turned Castro into a political independent. He could act without regard to all the interest groups that normally are crucial for a mayor’s political future.

19 Bacon and Majeed (2012).
Castro understood that it was not a coincidence that Bogotá was failing. The city council held a great deal of power over the detailed management of the city, and its members relied heavily on extensive patronage networks to remain in power. They ran the city’s agencies and publicly-owned companies for personal benefit and to enrich their supporters. But Castro did not implement blue-ribbon commissions or hire expert consultants to deal with corruption. Instead he used his experience as a constitutional lawyer to design a new law for how to govern the city. “Since the first day I walked into City Hall,” Castro later admitted, “I began to take notes on small cards regarding what the statute would be, drawing on the difficulties I encountered along the way and my own observations”.20

Castro was ridiculed as a haughty mayor who did nothing but take notes on slips of paper. This view changed, however, when he not only wrote a document on how the city should be governed, but also had it enacted into law through a national presidential decree.

Castro set the stage for reform in Bogotá and became the first of a string of mayors who succeeded in turning the city around. In 2002 the city had improved to the point where the United Nations selected Bogotá as a “model city” to be emulated throughout Latin America. But implementing change was neither easy nor popular. The title of Jaime Castro’s memoirs is revealing: “Three Years of Solitude”. The book’s cover shows a picture of him standing alone, looking out his office window.21

Jaime Castro had the nerve and skills to enforce functioning reforms during his limited three-year term. Voters rewarded him by voting for Antanas Mockus and Enrique Penalosa as his successors – persons who, while in some ways quite different from Castro, continued in his spirit to change Bogotá for the better.

Like Castro, Mockus and Penalosa also came from non-traditional parties, which meant that they were allowed a certain freedom in choosing the members of their administrations. Their teams were made up of young academics and professionals, including many women, and this revivification made it possible to move towards a more ethical and professional way of running the city.

Cities That Get Stuck

Politicians often believe that voters will not accept the kind of reforms that build assets. Jean-Claude Juncker, the current president of the European Commission, famously phrased that political leaders are often worried that voters are frightened by audacious reform, as; "We all know what to do, we just don’t know how to get re-elected afterwards."

Surprisingly, politicians who reform, however, are often amply rewarded. One empirical study focusing on the pace and direction of reforms in 29 OECD countries since the mid 1990’s showed that, even if reforms towards higher levels of economic freedom are difficult to introduce, governments that do implement them are often rewarded by voters.22

20 Innovations for Successful Societies (2010).
21 Gilbert (2006); Innovations for Successful Societies (2010).
22 Fölster and Sanandaji (2014).
In spite of this surprisingly positive result, cities as well as countries can get stuck in a destructive spiral. In a recent and much acclaimed book, Daron Acemoglu and James Robinson broaden the “conflict of interest” thesis into a far-reaching argument about how institutions determine the development of different countries. They illustrate how countries with “extractive” institutions generally remain poor. The elites in these countries find it profitable to suppress their population and enrich themselves by abusing tax revenue or state monopolies to their own ends.\footnote{Acemoglu and Robinson (2012).} The same can happen in cities.

For decades, economists have been pessimists on governmental reform. This follows decades of great pessimism among economists on the chances for reform-oriented policies. Albert Hirschman detailed all the hurdles for reformers in his famous book *The Rhetoric of Reaction: Perversity, Futility, Jeopardy.*\footnote{Hirschman (1991).}

Yet people are becoming more aware and demand change. There is also an interesting institutional competition between nations, states, and cities. We already saw how Bogota got help from the national government to revamp its institutions. A similar mix of voter revolt and national intervention is currently revamping Rome. Rome is plagued by overflowing rubbish bins, untended parks and gardens, inadequate public transport and roads dotted with potholes. City politicians from the mainstream parties are on trial along with organized criminals, accused of jointly skimming municipal contracts. Romans are not accustomed to being ashamed of their city. But over 2016 it has been subject to the sort of direct, central-government administration normally reserved for Mafia-ridden villages in the rural Mezzogiorno. Fed up, Romans are also looking for an alternative.

But institutional competition can also go the other way. When national governments appear unable to reform, cities will increasingly demand more leeway to find solutions or find creative ways of rounding national regulation. Some of that is currently happening in both North and South America.

Rodrigo Guerrero of Cali (1992-1994, 2012-2015) and Antonio Villaraigosa in Los Angeles (2005-2013) are examples of how a radical change is possible. They borrowed ideas and practices from around the world and worked with different layers of government to design integrated violence prevention strategies. There are encouraging examples across North America, Latin America and the Caribbean of mayors that open channels to communicate with violence-plagued communities. Their goals are on the one hand to interrupt gang violence, but also to introduce social policies addressing crime-affected areas, under-serviced communities and households, and extreme wealth inequality.

But waiting for the exceptionally courageous and gifted mayors will work more in the exception than the rule. Institutional forms are needed that work even when normal people are called upon to run a city.
How Delegation to More Independent Professional Asset Managers Can Be More Democratic

A common misconception is that a strong city is one in which politicians take charge and manage city affairs hands on. In fact, the opposite is more often true. Just as “strong” states such as China or Russia are also weak in their ability to manage their country in the peoples’ best interest, cities that do not delegate some realms of decision making to professionals usually fail. China is what Gunnar Myrdal termed a “soft state”. The potential for state action in the common interest is undermined by cadres of state employees who can make a fast buck by ignoring pollution regulation or by taking a bribe to ignore polluting entities. Similarly, many cities are “soft cities” that fail in their basic mission.

Many of our examples from treadmill towns illustrate how public wealth can pervert democracy, an issue that has received much less attention than mere mismanagement of a public monopoly. Public wealth within easy reach of city administrations or governments creates incentives for abuse: Buying political favors in exchange for lucrative contracts or positions in state-owned firms; offering organized interests free access to federal land or water from public water companies in exchange for political support; buying support of unions by allowing higher wage increases in state-owned companies; caving in to vocal minorities that oppose city development projects. In all these ways democracy for the common good degenerates into clientelism or worse. Politicians are rewarded who deftly buy support from various groups rather than enact reforms in the wider public interest. That is the essence of a soft city.

In a clientelist soft city, leaders have little interest in making city assets transparent. It is hardly an accident that neither Greece nor Detroit had consolidated accounts of its considerable state assets, only incomplete records fragmented among several institutions. As long as city ownership remains murky it is easier for local governments to distribute favors without being scrutinized.

Even in cities with less outright corruption or clientelism, publicly-owned firms force politicians toward a producer perspective. In cities so diverse as Berlin or Calcutta leading politicians have rarely been interested in formulating consumer demands for more reliable infrastructure or better opportunities for those who create jobs.

In our previous book “The Public Wealth of Nations” we showed that democracy is vastly strengthened when the state has little wealth at its direct disposal. A truly strong state is one where politicians have to compete with agendas for the common interest, instead of competing by dishing out favors in the form of access to the public trough. The same is true in cities as well.

With our stories of turn-around cities we aim to show how a systematic approach can turn a struggling city into a wealthy one, even without the most courageous leaders and engaged citizens. With the help of transparent professional governance of social, human and economic assets, slightly removed from the political whims of the day, cities can thrive and be growth engines within their countries.
A Municipal Bond Perspective
How Would Municipal Bond Pricings and Ratings Be Impacted Under the Public Wealth of Cities Proposals?

Cities and states today face enormous financial burdens stemming from years of political, budgetary, and economic mismanagement. Mr. Detter proposes in *The Public Wealth of Cities* that struggling cities today can boost growth and prosperity through honest and transparent valuations of public assets. In order for cities to achieve better results, Mr. Detter suggests cities transfer wealth governance out of the hands of public officials to independent professionals in order to separate day-to-day governance from politics. We believe Mr. Detter’s proposals could certainly improve political decisions at the state and local level and reduce the threat of short-termism. However, while we agree efficient governance is critical for the success of any city, we believe structural budgetary imbalances and unconstrained expenditures at the local level are the most significant factors influencing the credit health and overall vitality of municipalities today.

Can Cities Today Better Utilize Public Assets to Grow Top Line Revenue?

We believe cities can more efficiently utilize public assets today. As municipal bond strategists, however, we believe the impact of urban renewal projects on the broader municipal bond market would be otherwise muted unless such projects contributed to the city’s top-line revenue growth. The rationale being that more revenue could improve a city’s fiscal health resulting in a credit ratings upgrade and higher bond prices. We next discuss more concrete examples.

The *Public Wealth of Cities* proposes if cities take inventory of all public assets and complete proper valuations on said resources, cities would be able to unlock hidden value and spur growth. An example of this being the town of Vasteras in Sweden, where the town realized it was using its prime waterfront property as a bus depot. Only after some economists showed clear calculations did it dawn on city politicians that there was a better use. The waterfront now houses some of the most attractive apartment buildings in the city, to the benefit of inhabitants who live there now, and the city made a pile of money. The bus depot is now on cheaper land outside the town. Moody’s credit rating places a 10% weight on the size of a local government’s tax base. These newly constructed apartment buildings will be an additional tax source for the city potentially improving overall fiscal health.

Spatial misallocation of public resources and underdeveloped public spaces create economic inefficiencies, an example of this being brownfield spaces. Brownfields are environmentally compromised plots of land typically found in lower income, formerly-commercial-turned-residential neighborhoods. The U.S. Environmental Protection Agency (EPA) estimates there are 450,000 brownfield areas throughout the United States with the Northeast Midwest Institute finding that cleanup of brownfield properties leads to housing price increases between 4.9 percent and 32.2 percent. The World Economic Forum found that when house prices rise, homeowners spend more. This is significant as increased consumer spending could spur once-sluggish local economies, growing government coffers.

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What Factors Impact Local Government Credit Ratings and How Do Those Ratings Impact Municipal Bond Prices?

Moody’s evaluates the credit quality of local government debt using a scorecard with four major factor weightings: Economy (30%), Finances (30%), Management (20%), and Debt (20%) (See Figure 9). Within each major factor weight are two to three sub factors such as a city’s median family income (10%) and pension liability burden (5%) (See Figure 10). From these factors, a credit rating is derived. Municipal bondholders meticulously analyze these ratings as they attempt to understand the credit risk of the issuer and the bond. Thus, the credit ratings of new issuances impacts pricing and issuer supply and investor demand. Simply put, if credit ratings are upgraded, bond prices increase. If the credit rating is downgraded, the price of the bond declines. One reason for this is that investors demand lower liquidity premiums when a bond’s credit quality increases.

Moody’s scorecard also takes into account a local government’s budget and financial planning, stating, “we may notch a scorecard outcome up or down if we believe a local government’s financial planning and budget measurement are unusually strong or weak, in ways not reflected in the recent financial trend or existing cash reserves and fund balance.” This is significant as The Public Wealth of Cities proposes that if city politicians devolve governance responsibility to independent third-party managers, cities would be able to improve long-term budget planning.

Other considerations to highlight that are not included on the scorecard that may lead to scorecard adjustments, which we will discuss later include:

- Labor contracts that materially affect credit strength; and
- Heavy fixed costs, including contractually fixed costs such as pension payments.
Shining a Light on Pittsburgh: What Lessons Can We Learn From How This Once Distressed City Became a Turbo City?

We discuss next Pittsburgh, an example of a turnaround city Mr. Detter describes as a “turbo city” in the Public Wealth of Cities. Mr. Detter attributes much of the city’s turnaround success to two urban renewal projects that took place in the 1960s and 1970s stating “with these asset-building initiatives, Pittsburgh has gradually bucked the trend of failing Rust Belt cities”. While we agree asset-building initiatives positively contributed to Pittsburgh’s economy, the fact is that any marginal benefit from these initiatives could continue to be overshadowed today if it weren’t for the Commonwealth of Pennsylvania rescuing the city in 2003 from financial ruin.

In October 2003, Moody’s downgraded Pittsburgh’s general obligation (GO) debt from A3 to Baa1, the first of three consecutive downgrades due to the city’s severe operating deficits and pending insolvency. The initial downgrade resulted from a note in the city’s financial statements which stated if the city were not approved to raise taxes then Chapter 9 bankruptcy or Act 47 would be considered. Act 47, also known as the Pennsylvania Municipalities Financial Recovery Act, is responsible for assisting municipalities that are experiencing severe financial difficulties. Pittsburgh opted for Act 47, adopted the Financial Recovery Budget Plan, and from December 2004 to November 2010, Pittsburgh’s GO debt improved seven notches from Ba2 to A1. Moody’s cited the city’s strengthening financial operations and fiscal surplus as a reason for the upgrade (Figure 11).

The 2004 Act 47 Recovery Plan forced Pittsburgh to renegotiate collective bargaining contracts that were drying out local coffers, moderate the rate of wage growth, introduce health benefit cost sharing, and allowed the city to receive revenue from nonresident wage tax, a benefit allotted only to cities under the Act 47 designation. These actions brought cost growth more into structural balance from 2005 to 2008, allowing the city to make significant progress toward financial recovery. As a result of this approach, cumulative workforce cost growth of 25.8% from FY2004 through FY2012 closely paralleled growth in revenues of 24.7%, unlike FY1999 through FY2004 when collective bargaining units received benefits that grew 6% when city coffers grew below 1%. Grounded in such operating budget stability, Pittsburgh was able to begin addressing severe legacy cost burdens from pensions, as well as other post-employment benefits, paving the way for the city to become the turbo town it is today.

Figure 11. A Timeline of Pittsburgh’s Historical Rating Upgrades and Downgrades

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>November 2003:</td>
<td>Downgraded from Baa1 to Baa1 citing the substantial deterioration in the City’s finances</td>
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<tr>
<td>December 2004:</td>
<td>Upgrade from Baa2 to Baa1 citing approval of the State legislature for new revenue enhancements</td>
</tr>
<tr>
<td>October 2006:</td>
<td>Upgrade from Ba1 to Baa2 citing the City’s strengthening financial operations and $23m surplus</td>
</tr>
<tr>
<td>November 2010:</td>
<td>Upgraded from Baa1 to A1 citing the City’s stable financial performance for the past six years</td>
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Source: Citi Research, Moody’s
Have Economically Inefficient Policies Crippled the Fiscal Health of American Cities Today?

Pittsburgh is not the only city that has fallen victim to the crippling mix of powerful collective bargaining units and runaway expenditures. We look next at how local government fragmentation and strong government unions are crippling American cities and states today. We highlight these trends as we believe, if addressed and corrected, they would have the most significant impact on cities’ and states’ credit ratings.

Extreme Local Government Fragmentation

States today like Illinois and Pennsylvania are highly fragmented with a large number of debt-issuing local governments servicing residents in overlapping tax bases.

Sixty-one percent of Illinois residents live under three layers of general purpose government, and in some areas of the state, residents have up to 16 different local government agencies operating in the area.25 Pennsylvania has the third largest quantity of local government amongst all states with 26 distressed local governments operating under the Act 47 designation.26 Connecticut’s 169 cities and towns operate like independent republics, unconstrained by country officials and subject to only limited state controls.27 This has led to the city imposing nearly ruinous taxes on the remaining private land to cover basic municipal services resulting in a situation that has become nearly unsustainable.28 While government fragmentation is not inherently a credit negative, separate local government debt issuers are often related through economic, financial, or governance factors which create credit linkages despite the appearance of legal separation.

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Thus, we find that extreme local government fragmentation has the potential to create inefficient policies leading to poorer fiscal health at the state and local level.

We highlight these states to provide tangible examples of the impact of inefficient policies on the credit health of local governments. We believe cities must deal with these inefficiencies first in order to improve credit ratings in the municipal bond market. Then focus on unlocking the hidden wealth in public assets.

We discuss next the impact of public unions.

**Strong Collective Bargaining Units**

Over the past half-century, the American union movement has moved into government with almost all changes to government collective bargaining statutes over the past 20 years increasing the powers enjoyed by government unions.\(^2^9\) Per the Heritage Foundation, it is estimated that states that extend mandatory collective bargaining powers to state and local government employees spend $600 to $750 more per capita than states that do not. This raises the average cost of government by approximately $2,300 to $3,000 for a family of four.

- **Connecticut** has $74 billion in unfunded pension liabilities. The state employees cost of benefits, which are 60 percent of payroll are double those of private sector per Tom Foley, former Connecticut gubernatorial candidate. Retirement benefit costs and debt service now consume about 31 percent of projected General Fund revenues whereas 20 years ago such costs composed 12 percent of the General Fund\(^3^0\). While the state is responsible for underfunding pensions for decades, it is imperative the state renegotiate union contracts in order to reduce retirement benefit costs and correct course.

- **Illinois** AFSCME Union Workers are the highest-paid state workers in the country when adjusted for cost of living. AFSCME, which stands for the American Federation of State, Country, and Municipal Employees Union represents 38,000 Illinois state workers with represented workers receiving median wages of $63,600 compared to the median Illinois wage of less than $32,000.\(^3^1\) Additionally, workers receive a 37.5 hour work week, costing the state $63 million in addition to double-time pay for 10 holidays and two and one half time pay for Christmas, Thanksgiving, and Labor Day, which costs taxpayers an extra $48 million. Workers receive platinum-level health care benefits with 77 percent of the nearly $15,000 per worker paid by taxpayers, plus free health insurance at retirement worth up to $500,000 and pensions benefits averaging $1.6 million.\(^3^2\) These costs are unsustainable for a state that continues to experience financial distress.

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\(^3^2\) Ibid.
Pennsylvania currently has 26 distressed municipalities operating under the Act 47 designation, including three of the six largest cities in the state—Scranton, Reading, and Pittsburgh. The city of Scranton has operated under this designation for the last 25 years with the state oversight committee finding that the city’s fiscal health could not be restored without addressing personnel expenditures, specifically direct compensation. To understand why the city’s personnel expenditures are so high requires a look at the contract terms of Scranton’s largest public unions. From 2000 to 2012, Scranton police and firefighters received wage hikes that placed them in the top quarter of all wage earners in Scranton. During this period, firefighters’ top base salary rose 49.5 percent with top base pay up 53.7 percent from $37,062 to $59,960. By comparison, a male Scranton resident who worked full time earned $30,829 in 2000 and by 2012 $37,941, a 23.1 percent increase. As previously discussed in the Pittsburgh section, the city’s general fund was similarly crippled by rapidly growing personnel expenditures and it wasn’t until the city was placed under Act 47 oversight that the city was able to renegotiate one-sided labor contracts and reduce costs.

We believe asset-building initiatives, public asset transparency, and professional management of assets can help spur growth in America’s fiscally healthy cities today. However, as distressed cities today struggle to tread water and deal with inefficient policies and structural budget imbalances, corrective long-term policies must be put in place first. Then and only then do cities have the financial stability to turn around and shift focus towards unlocking the wealth of public assets.

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34 Act 47 Recovery Plan.
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A Public Sector Perspective
Helping the Public Sector Create Cities for the 21st Century

Cities across the world face unprecedented challenges due to population growth and aging infrastructure. However, by aligning global financial markets with sustainable development, the public and private sector can work together to create innovative financing structures to facilitate smart cities fit for the future.

The importance of cities — economically, politically, and socially — has grown significantly in recent decades. They are the world’s economic dynamo and home to more than half the world’s population. According to the United Nations, that figure will reach 60% by 2030, when one in three of us will live in a city with at least half a million inhabitants. A McKinsey Global Institute report projects that that the world’s top 600 cities will generate 60% of global GDP growth by 2025. The attraction of cities remains straightforward: they offer people the chance to build a better future for themselves and their families.

However, growing populations and, in many developed countries, aging infrastructure, mean that cities are under pressure. As Dag Detter and Stefan Fölster note in their new book *Public Wealth of Cities*, many U.S. cities face an impending investment disaster. All too often plans for development and infrastructure are being delayed because of fiscal constraints, and even the most necessary repairs lack funding. In the 2015 Menino Survey of Mayors commissioned by Citi, nearly half of the 89 U.S. mayors surveyed by the Boston University Initiative on Cities said that aging and unfunded infrastructure is their most pressing challenge, with mass transit, roads, and water topping the list of priorities.

The central role that cities play in our lives in the 21st century, and the challenges they face, are highlighted by two United Nation’s Sustainable Development Goals (SDGs) focused on critical urban issues — sustainable cities and communities, and investment in infrastructure.

To address the financing challenges associated with urbanization and infrastructure, creativity is needed. As Detter and Fölster point out, even struggling cities own large swathes of underutilized real estate or control underperforming utilities and other commercial assets “it’s time to consider unlocking the value of public assets as a core urban strategy”, they explain. “Most cities could more than double their investment with smarter use of their commercial assets”.

The development finance world is stepping up at this critical time. A broad range of actors, including governments, donor, multilaterals, development financial institutions, institutional investors, and commercial banks are collaborating on unlocking financing. By aligning global financial markets with sustainable development they are creating innovative financing structures and using financial tools to convert resource flows and de-risk projects.

Through our global citizenship initiatives and business activities, Citi is developing and deploying solutions that will help cities — and the wider world — to achieve the UN’s SDGs. The UN’s 2030 goals are fully aligned with Citi’s vision and mission: we are well-positioned to drive significant progress through our core business and specialized citizenship initiatives. And we are committed to facilitating private investment and access to capital around the world.
### Sustainable Development Goal 11: Selected sustainable cities targets

- By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums.
- By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons.
- By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries.
- By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product, caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.
- Strengthen efforts to protect and safeguard in the world’s cultural and natural heritage.
- By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- By 2030, provide universal access to safe, inclusive, and accessible, green and public spaces, in particular for women and children, older persons, and persons with disabilities.
- Support positive economic, social, and environmental links between urban, peri-urban, and rural areas by strengthening national and regional development planning.
- By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation, and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster risk Reduction 2015-2030, holistic disaster risk management at all levels.
- Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

### Sustainable Development Goal 9: Selected infrastructure targets

- Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
- Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
- Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological, and technical support to African countries, least developed countries, landlocked developing countries, and small islands.
- Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.
Tackling City’s Challenges

Detter and Fölster’s book describes a new way of restoring economic vitality and financial stability to cities, using steps that already have been successful in other circumstances. “The key is unlocking hidden social, human, and economic wealth in cities”, they note. “A focus on public wealth shifts attention and resources from short-term spending to longer-term investments that can vastly raise the quality of life for many generations of urban residents”.

Cities and local governments have the potential to become more fiscally self-reliant and also much smarter about how they use their resources. While national governments and the private sector can offer useful assistance, ultimately cities must drive the development of infrastructure financing solutions themselves. That requires cities to have purposeful interactions with a side variety of stakeholders, be creative and take measured risks. Cities must become proactive and financially savvy: It is important that they understand the requirements of the financial sector and develop projects that are marketable and achievable.

Some of the ways in which funds can be unlocked by cities include:

- Developing a sustainable financing strategy, with the right set of incentives that balances tax revenues with user charges and addresses both economic efficiency and social equity issues.

- Engaging directly and actively with public pensions and other key institutional investors, especially for major strategic infrastructure projects that have larger economic and social impacts. Shared liability in these situations is proven to create inherent synergies between governments and public pensions for the public benefit.

- Working with the financial sector, cities need to develop innovative approaches to encourage more socially responsible investment opportunities that appeal to institutional investors. In particular, they need to identify an effective means to unleash substantive investments from philanthropic, foundation, and other nonprofit organizations.

- Working with international financial institutions, national governments, and institutional investors, cities need to find ways to harness development finance, which is generally perceived as risky in the financial community. Specifically, they should encourage development financial institutions (DFIs) and national governments to commit stable low-cost capital for the long term, as well as streamlining processes to establish formal and substantive development financing.
The Importance of Cities for Citi

With its more than 200 years of history serving individuals, businesses, financial institutions, and governments across the globe, Citi understands the needs and challenges of cities. We actively support cities to achieve their goals through our business activities and our many partnerships with a variety of organizations.

Through our Citi for Cities initiative, we have aligned the bank’s resources with cities’ needs. We enable the efficient operation of cities’ financial infrastructure, facilitate the modernization of their physical infrastructure — including critical affordable housing — and work in partnership with them to solve their urban challenges, such as job creation and the need to enhance liability. As a truly global bank, we are able to help cities apply best practices from the public and private sectors worldwide to urban ecosystems and leverage innovative technology and financial thinking.

Partnerships are an indispensable part of Citi’s approach to addressing the world’s urban challenges. The Citi Foundation, in collaboration with Citi, supports the C40 Cities Climate Leadership Group (C40), which connects more than 85 of the world’s greatest cities, representing over 650 million people and one quarter of the global economy. Created and led by cities, C40 is focused on tackling climate change and driving urban action that reduces greenhouse gas emissions and climate risks, while increasing the health, wellbeing, and economic opportunities of urban cities.

Block Island Wind Farm Serves as a Milestone in Renewable Energy Development Efforts

- In October 2016, Citi provided financing for the construction and operation in Deepwater Wind’s Block Island Wind Farm, the first U.S. offshore wind farm.
- Citi participated in the construction loan and provided tax equity financing along with General Electric (GE).
- Block Island is a 30MW wind farm that utilizes five GE turbine towers that are 600 feet (180 meters) high. It is located three miles off the coast of Block Island, Rhode Island. The project is a landmark transaction in U.S. renewable power history and reflects the continuing growth of renewable energy development. The offshore installation took two years, with more than 300 local workers helping to develop, build, and commission the project, according to Deepwater Wind.
- The system connects New Shoreham residents on Block Island to the grid for the first time, enabling them to phase out the use of diesel generators on the island and reduce their electric rates by an estimated 40%.
- The wind farm has executed a 20-year power purchase agreement with the Narragansett Electric Company and began delivering power in December 2016.

City of Spokane Green Bond Tackles Pollution Head-On

- In 2014, Citi underwrote the largest bond issuance in the City of Spokane's history — a green bond specifically issued to help clean up the Spokane River.
- Funding from the bonds will help the City implement its Integrated Clean Water Plan. The plan includes work to manage overflows from combined sanitary and stormwater sewers, address untreated stormwater going to the river, and add an additional level of wastewater treatment at the City’s Riverside Park Water Reclamation Facility.
- The City has added membrane filtration that will vastly improve the quality of effluent released. In addition, underground concrete storage tanks now manage overflows from combined sanitary and stormwater sewers while new stormwater management facilities in legacy industrial areas keep pollution out of the Spokane River.

The Citi Foundation supports the C40 Cities Climate Leadership Group…
The Citi Foundation also supports the World Resources Institute (WRI), which encourages people to live in ways that protect the Earth’s environment and deploy solutions that enhance its capacity to provide for the needs and aspirations of current and future generations. The Financing Sustainable Cities Initiative, a partnership of the WRI Ross Center for Sustainable Cities, C40, and Citi Foundation is accelerating sustainable urban solutions through new business models. It has helped to put electric buses on the road in Los Angeles, Durban, Auckland, and Tshwane in South Africa, for example.

Another organization supported by Citi is the NewCities Foundation, an international nonprofit dedicated to making cities more inclusive, connected, healthy, and vibrant through cross-sector collaboration. In 2016, Citi partnered with NewCities, Arup, and Cisco to develop a Handbook on Urban Infrastructure Finance, which provides actionable research that serves as a resource for urban planners in cities around the world.

The Citi Foundation is a member institution of Living Cities, which harnesses the collective power of the world’s largest foundations and financial institutions to build a new type of urban practice that gets dramatically better results for low-income people, faster. The Citi Foundation has collaborated with Living Cities and Governing Magazine on implementing and disseminating findings from the City Accelerator, an 18-month peer learning experience designed to bring cross-departmental city teams together that are seeking to drive innovation and enhance outcomes.

Citi Accelerator’s more recent participants — Pittsburgh, Saint Paul, San Francisco, and Washington D.C. — sought to overcome formidable challenges in order to implement cutting-edge financing for capital projects. This group learned about innovative revenue sources and creative financial tools while examining their own project development processes and advancing a selected set of innovative projects. Living Cities’ Resilience, Equity, and Innovation Guide shares tools and processes explored by this group to increase equity and fund infrastructure. Other focuses of the City Accelerator participant cities include enhancing innovation through civic engagement, further integrating innovating in local government and strengthening procurement practices to promote economic opportunity, including for small, women- and minority-owned businesses.

The City Accelerator highlights similar challenges and potential solutions to issues described in Detter and Fölster’s *Public Wealth of Cities* book. One interesting solution proposed by Detter and Fölster, for example, is Urban Wealth Funds. These bodies would operate at arms-length from short-term political influence and would enable cities to ramp up much needed infrastructure investments.

**Addressing the Infrastructure Investment Gap**

Funding is a critical challenge to delivering sustainable, inclusive, good-quality industrial and transport infrastructure, especially in developing countries. In emerging markets, the infrastructure financing gap ranges between $1 trillion and $1.5 trillion, which far exceeds the capacity of governments, donors, and development financial institutions. As Detter and Fölster point out, many cities are struggling “just to keep the lights on, much less make the long-term investments necessary for future generations”. At the same time, there are billions of dollars in debt and equity capital seeking secure and healthy returns.
Transport infrastructure is a critical aspect of building sustainable cities; it has the potential to enhance citizens’ quality of life while fueling economic growth and development. However, it requires large capital investment, which is challenging for many countries, given constrained public finances. Moreover, transport infrastructure investment requires an astute balancing of political, economic, social and environmental considerations.

In some circumstances, existing transportation infrastructure can be modernized, optimized, or extended (see call out box below on Lima Metro Line 2). In other situations, especially in fast-growing developing countries, entirely new infrastructure is required to cope with burgeoning passenger numbers (see call out box below on Mexico City International Airport).

How Innovative Financing Laid the Tracks for Lima Metro Line 2

Traffic congestion in Peru’s capital, Lima, has been a problem for many years. Indeed, the absence of effective public transport has hampered citizens’ access to job opportunities and services in many parts of the city.

To address these problems, the Government of Peru embarked on the Lima Metro Line 2 project, one of the country’s largest infrastructure projects. The project uses a public private partnership model and utilized an innovative financing model.

Citi was a joint global coordinator and bookmaker on the $1.155 billion transaction in the international capital markets to finance the project. The notes are backed by RPI-CAO’s, unconditional and irrevocable payment obligations of the Government of Peru, which are purchased on the certified completion of certain construction milestones.

Citi, in its role as sole ratings advisor, advised Lima Metro Line 2 in obtaining investment grade ratings from all three agencies, one notch below the sovereign rating of Peru. This was a key factor in the transaction’s success.

Sequential Financing Enabled Mexico City Airport to Lift Off

Mexico City — an urban area with a population of over 20 million and one of the 20 largest cities in the world by GDP — needed a new airport to meet its transport needs. Having grown at a compound annual growth rate of 10% since 2010, the existing airport served 45 million passengers over the twelve months leading up to June 2017, exceeding its technical capacity. The rapid expansion of Mexico City’s urban area meant the existing airport, could not be expanded further.

To finance the construction and development of a new airport — billed as one of the most sustainable ever built — required a series of transactions. An initial $9 billion sequential financing approach anchored funding for the project, executed via a $3 billion five-year revolving bank facility (RCF), followed by $6 billion raised in the 144A/Reg. S bond market. The follow-on offering was the largest ever non-recourse single-asset infrastructure bond globally, the largest ever airport bond globally and the largest ever green bond in the emerging markets. Citi acted as global coordinator for the offerings.

The structure was carefully designed so that the RCF was used to fund construction disbursements; once an efficient size was reached, bonds were issued and the RCF repaid so that the full $3 billion was available again. This process is repeated as needed, giving the airport flexibility over timing to access markets, and mitigating negative carry associated with having long-term funded capital before it is needed.

Given the long-term, stable cash flows of many projects in the infrastructure sector, it seems the perfect destination for such capital. But in large part, this investment is not taking place because of foreign exchange (FX) risk. The majority of infrastructure projects are mostly efficiently funded in local currencies because most of their costs and revenue streams in the form of charges paid by end users are also in local currency. In 2016, nearly half of the $380 billion in debt financing was generated in emerging and developing economies. However, only 28% of that debt financing was in emerging currencies.
To overcome this blockage, creativity is required — not least because the likely size of the long-term emerging markets derivatives markets (required to hedge local currency risk) is dwarfed by the quantum of local infrastructure funding needs. This is especially the case with so-called frontier markets, where infrastructure needs are the most urgent. There are some strategies that can be implemented right now to overcome this blockage.

One approach comprises various liquidity-oriented derivatives market strategies that aim to maximize the amount of currency hedge a project can attain via the derivatives markets. In all emerging markets, without exceptions, short-term derivatives contracts are many times more liquid than long-term contracts, which are typically needed by a project. So, currency risk can be hedged with short-term (forward) contracts for the required value. The forward would be periodically rolled over (renewed) at expiry.

An increase in the cost of a new forward (so-called ‘carry’, reflecting the interest differential between the U.S. dollar and the local currency) is a risk — potentially affecting the project’s debt-servicing ability. However, a supranational or DFI Liquidity Facility might be considered as a risk mitigant. While an emerging market carry cost is not a risk to be ignored, it pales in terms of volatility and magnitude compared to FX devaluation risk. Moreover, unlike FX risk, carry reverts to pre-crisis levels, almost without exception, enhancing the project’s ability to repay the Liquidity Facility.

Another example of a liquidity-oriented derivative market strategy is hedging currency risk using a proxy, i.e., a correlated currency or portfolio of correlated currencies with the aim of attaining a larger hedge amount than the one available in the single-currency swap market. Currency risk may also be hedged by accessing proxy-currency investors to raise funding in a local currency correlated with the domestic currency of the project; for example, a Colombian project might be funded in Mexican pesos or Chilean pesos rather than U.S. dollars. As many emerging market currencies move in tandem, if one is faced with a choice of funding a local project in U.S. dollars or in another emerging market currency, the latter one will almost always — at least from a correlation and volatility perspective — prove to be a better choice. The U.S. dollar has historically been one of the most ill-suited assets to fund an emerging market currency asset.

The risk of a break in correlation between two selected emerging market currencies (basis risk) might be covered by a DFI. Many local sovereign entities already run the risk of their currencies devaluing against the U.S. dollar, which is significantly greater than the risk of their currency devaluing against another local currency.

Finally, currency risk can also be hedged by utilizing risk-adverse local investors to fund projects in local currency, with offshore investors that provide U.S. dollar collateral such as T-bills, kept offshore. In another variation of this strategy, a local development bank provides local currency funding to offshore investors or a supranational, which on-lends local currency to the project. This strategy has been used for a CEEMEA project (via repo on euro treasury bonds) and is also being employed by Colombia using a development bank’s loans to international banks.
Conclusion

Citi’s Global Public Sector Group is committed to helping our clients meet their objectives, both in the expertise and innovation we make available to cities around the world through our scores of partners globally. We share the goals of creating sustainable cities that allow citizens to thrive, business to prosper, and communities to success. Like Detter and Fölster, we believe that cities have enormous social, human, and economic potential that simply has to be unleashed.

By connecting the public and private sector, Citi can help to free this potential and open the way to critical infrastructure financing. By utilizing new approaches that appeal to the market, deepen markets and are scalable, we can empower cities to offer the services their citizens and businesses need, and build the infrastructure to become beacons for the world in the 21st century.
Citi Global Perspectives & Solutions (Citi GPS) is designed to help our clients navigate the global economy’s most demanding challenges, identify future themes and trends, and help our clients profit in a fast-changing and interconnected world. Citi GPS accesses the best elements of our global conversation and harvests the thought leadership of a wide range of senior professionals across the firm.

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### Key Insights regarding the future of Cities

#### INFRASTRUCTURE
Most cities face an impending investment disaster with promising plans for development and infrastructure remaining on paper because of fiscal constraint. Achieving a reasonable yield on publicly owned real estate and other commercial assets would free up more resources than most cities’ total investment in infrastructure.

#### URBANIZATION
Treadmill cities live hand to mouth and have difficulties making ends meet as debts have piled up and pension liabilities and budget costs skyrocket in relation to income from taxes and assets. A turbo city has made canny investments that make its daily operation cheaper, more effective and sometimes even yields a direct return.

#### SHIFTING WEALTH
Few cities have a balance sheet and of those that do, few have one that reflects the true value of their commercial assets. The best way for a government to manage commercial assets is to put them into a commercial holding company, an Urban Wealth fund, and allow it to act professionally as if it were a publicly-owned private equity fund.