FINANCING CITIES

by

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ABSTRACT

The macro-economic and micro-economic evidence makes a persuasive case for cities as important centers for productive efficiency, innovation, and economic growth. For cities to achieve their full economic potential, however, complementary public services are required. This paper reviews the arguments and evidence for the efficient financing and governance of city public services. While infrastructure construction and maintenance, K-12 education, and provision of clean and safe environments for workers are legitimate fiscal responsibilities in the efficient city, city funding for redistributive services to low income households is not. Financing should assign residential taxes to residential services and business land taxes and fees to business services. The efficient city's governance should foster competition and choice through neighborhood financing and provision of congestible city services (education, basic policing and fire protection, trash collection) and an institutionally strong city mayor chosen by competitive city-wide elections for the financing and provision of less congested city-wide services (infrastructure, courts and prisons, public health).

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In 1904, St Louis, Missouri hosted the World's Fair, and this year is its 100th anniversary. The seven month fair hosted exhibits from 62 countries and had an attendance of over 2 million visitors. At the time of the Fair, St Louis itself had a legitimate claim to being one of the premiere cities in the United States. It was the country's fourth largest city behind New York, Philadelphia, and Chicago and had an average worker's wage that was 20 percent higher than the nation's per capita income. The city's population had grown at an annual rate of 4 percent over the previous twenty years, roughly twice as fast the nation's overall population growth. St. Louis had become the gateway to the West. At the time of the 1904 World's Fair, the song "Meet Me in St. Louis" promised a good job, a good home, and a good time.

Today, on the 100th year anniversary of the Fair, few willingly accept that invitation. City population has been in a steady decline since its peak at 856,796 residents in 1950. At the time of the most recent U.S. Census (2000), average city income is $16,000 per person, 26 percent below the national average. The city's unemployment rate was 6.6 percent compared to a national average rate of 4 percent. The rate of poverty for St. Louis residents was 25.7 percent, roughly twice the national average. It is true that economic trends have been moving against older industrial cities, but even against eleven sister cities of the Northeast and Midwest St Louis offers a poor comparison. She ranks 12th of 12 in current rates of population growth (*negative* and actually last of *all* large cities in the United States), 3rd highest in percent of residents living in poverty, 3rd highest in the rate of city unemployment, highest in the rate of crime, and 10th in the rate of real appreciation in median city home values. In 1952, St. Louis had 51 percent of the region's employment within its borders.

Today only 12 percent of area jobs are in the city. Over the past 50 years, the suburbs have been gaining jobs at the rate of 2.7 percent per year, while the city has been losing jobs at the rate of 1.7 percent per year.

What happened? St Louis's decline was, to an important degree, a product of its own doing. City public spending per resident in St. Louis rose at an annual real rate of 3.4 percent over the period 1955 to 2000, compared to a national average annual rate of growth of 2 percent for all large U.S. cities including her eleven Northeast and Midwest comparison cities. The causes of high city spending were high growth rates in public employee compensation and a rising ratio of public employees to city residents. Growing city poverty played a role too. Facing a potentially significant gap between taxes paid and services received, it is not difficult to see why the middle class and businesses stopped "meeting in St. Louis."

On January 13, 1999, The Governor of the central bank of Brazil resigned and the country devalued the national currency, the real, by 8 percent. The Brazilian stock market fell by 10 percent over the next month and the yield on Brazil's dollar bonds rose by 400 basis points relative to U.S. Treasuries. As two of Brazil's leading trading partners, the prices of Argentinian and Mexican bonds fell as well. Shares in U.S. banks with significant Latin American exposure fell sharply too. While the Brazilian financial markets have now stabilized, there was a significant temporary interruption in the flow of capital into the economy and a slowing of national growth.

What happened? For much of the previous two decades, Brazilian budgetary policies had been determined from the "bottom-up." Local politicians in the nation's largest cities controlled local service provision and, as a consequence, local votes. Local votes determined state election outcomes, and state elections for senators and governors drove national policy. The best political

strategy for those wanting to hold national office was to provide nationally collected tax revenues to the nation's largest cities. Having broken the connection between revenues collected and services provided, the mayors of Rio de Janeiro, São Paulo and other large cities were never held responsible for the management of their local budgets. Rather than raise local taxes, mayors lobbied for more grants. When grants slowed, mayors borrowed money from state and national banks. When the local debt was not repaid by the cities, the banks demanded, and received, a deficit bailout from the central government. To pay for the bailouts, the central government itself chose to borrow money. In the end, local fiscal excesses became national debts. When national debt repayment was postponed in 1999 and the currency devalued, Brazil fell into a financial crisis. Once again, mismanaged city finances damaged the private economy – this time the economy of an entire country.

This essay outlines what might be done to avoid the damaging fiscal histories of a St. Louis or of the entire Brazilian local sector, for their stories are not exceptional.

II. Cities and Value

Cities exist because of the economic and social advantages of closeness. Today, a city's role is to serve as the economy's idea centers, the place where product innovation occurs, new deals are done, and the creative arts can flourish. Philadelphia and Boston (health care), Tel Aviv, Bangalore, and San Francisco (hardware/software), London, Tokyo, and New York (finance and the arts), Nashville and Paris (music), Bombay and Los Angeles (entertainment), Milan, Paris and New York (fashion) are all examples of cities that successfully encourage idea exchange, innovation, and new product development. Today's productive cities support valued creativity through the provision of

efficient telecommunication networks, safe and walkable streets, and an educated workforce; these are the essential city services in today's successful cities.

What has always made cities work as economic centers – from Manchester, England in the 1700's to New York City, London, and Tokyo today – are agglomeration economies, the gain in efficiency which comes from having many firms and workers in close proximity to one another. A growing body of empirical research demonstrates the importance of city agglomeration for today's economy. Ciccone and Hall (1996) find that doubling aggregate employment density in a U.S. county increases the productivity of all county workers by an average of 6 percent; Ciccone (2002) found similar gains in worker efficiency from agglomeration for European regions. Beardsell and Henderson (1999) find doubling high tech employment density raises overall factor productivity of high tech firms by 6 percent after one year and perhaps by as much as 17 percent after four years. Rosenthal and Strange (2003) provide strong evidence that these economies are greatest within one mile of the center of current firm concentration and are typically exhausted within five miles. Efficiencies from firm and worker agglomeration are economically important and, particularly important for our story, the benefits are localized to the agglomerating city's economy. Who benefits from an efficiently organized city are the workers who work there, the homeowners who live there, and the entrepreneurs who have invested in the city's land and structures; see Rauch (1993). Both theoretically and empirically, cities with more spatially concentrated economic activities are more economically valued cities.

III. Cities and Finances

Yet for any city to realize its full economic potential, the efficient provision of city-specific

infrastructure and public services is essential. City firms need roads, bridges, and telecommunication networks and city residents need education, safe streets, and clean and healthy environments. These are the tasks of city government. Efficient city finances will require, first, an appropriate assignment of spending and taxing powers and then, second, a structure of city political institutions and rules of governance to ensure these assigned powers are used maximize resident welfare and firm profitability. Even with appropriate assignment and governance, however, there may be instances in which state or national government assistance in the form in intergovernmental grants-in-aid will be needed to help city governments maximize city economic value. Here I outline what it takes for city finances to be efficient. Table 1 summarizes the analysis.

City Services: What public services should the efficient city government provide? Successful cities require public services and infrastructure that complement private capital and labor in production and create physical and social environments valued by the cities' residents. Among these services, city governments should be limited to financing those with spatially confined spillovers or congestible sharing technologies. Services with significant spatial spillovers should be financed by higher levels of government, as should government services such as national security with significant economies of scale ("publicness") in production. Candidate city services will include: access and neighborhood roads, communication networks, airports and public transit, sewer and water infrastructure, parks and recreation, public health, libraries and cultural centers, police and fire services, courts and prisons, and K-12 education. What city governments should *not* do, at least from their own tax resources, is redistribute incomes. Mobile upper income households and businesses will simply leave the city and in the process undermine city agglomeration economies and then finally city economic efficiently; see Haughwout and Inman (2001; 2002). Poverty

services should be financed at least at the level of the metropolitan area and more ideally by state or national governments; see Brown and Oates (1987) and Inman (2003a). Table 1 lists the public services the efficient city should provide.

City Financing: Current period services should be financed by current period taxes and user fees; future period services should be financed by future period taxes and user fees facilitated through the issuance of public debt.

Taxes: Economists identify two forms of taxation: *source-based taxation* that taxes factors of production where they are employed and taxes goods and services where they are purchased, and *resident-based taxation* that taxes factors of production by owners' residences and taxes goods and services by consumers' residences. To the extent a city resident is both a producer and a consumer of a city good or service then any city tax on that good or service will be, by definition, both a source-based and a resident-based tax. The taxation of resident-owned city housing is the important example.

But most taxes are either source-based or resident-based. Prominent source-based city taxes include: 1) taxes on city employees' wages regardless of residence (e.g., a commuter tax); 2) taxes on city firms' capital or profits (e.g., commercial-industrial property taxes); 3) taxes on local retail sales; and 4) taxes on city firms' total sales (e.g., a gross receipts tax or turnover tax). Prominent resident-based city taxes include: 1) taxes on residents' wages or more generally all income, and as mentioned, 2) a tax on resident-owned properties. Efficient city financing should pick that mix of taxes which maximizes the profitability of city firms and the welfare of city residents.

Most cities use source-based taxation for two quite understandable reasons. They are easy to administer as the collecting agent is typically a firm or business located within the city, and at

least initially, a significant share of the burden of such taxes may fall upon non-voting taxpayers residing outside the city. Unfortunately, source-based taxation often has large negative effects on the overall economic performance of the city's private economy. (It is true that such taxes will collect revenues from outsiders using city services, but there are more efficient ways to charge those visitors, for example user fees and excise taxes targeted to the outsiders' access to (parking, rail, airport, roadway fees) and stays within (hotel taxes) the city.) Commercial-industrial property taxes, taxation of commuter workers, and the taxation of firm output or sales all reduce firm profitability at the taxing location. Unless the resulting reduction in firm profits is matched by at least a fully compensating profit increase from added city services, the firm, constrained to earn the competitive rate of return, must leave the city. From the perspective of economic efficiency, there is little to recommend source-based taxation.

How cities should finance their local public services is through user fees and resident-based taxation for residential services and user fees and business-based land value taxes for business services. The resident tax might be a tax on residential property or resident wage or income, the latter administered as a locally decided additional tax rate (called "piggybacking") applied to all, or perhaps just a locally decided portion, of the state or federal income tax bases. Business should be charged a combination of user fees for the use of city services (e.g., water, trash, and parking fees) and then a tax on the value of business land when the administration of user fees is not possible (e.g., police and fire services and general infrastructure maintenance). Pittsburgh (US) and Queensland (Australia) have both successfully administered a business land tax; see Oates and Schwab (1997). Table 1 lists an appropriate means for financing each city service.

Borrowing: For the financing of the construction and maintenance costs of city infrastructure

– schools, public transit, water works, airports, communication networks, major access roads, prisons and courts, waste treatment facilities – economic theory is clear: Tax payments should be smoothed over the productive life of the government asset through the use of long-term borrowing; see Barro (1979) and Table 1. Ideally, taxes on the resulting improvement in the value of city land should then be used to repay the debt's principal and interest and all on-going costs of maintenance. The now common use of "tax increment financing" (TIF's) for city capital projects illustrates the feasibility this approach; see Brueckner (2001). However, if such assessments prove difficult – what is the "reach" of economic benefits from the new sports stadium or museum? – then city-wide taxes on residential incomes or property should be used to fund borrowing for residential projects and, similarly, city-wide taxes on business land should be used to fund business-related projects. Debt for projects which benefit both residents and businesses such should be repaid by city-wide taxation on both resident and business tax bases.

What should not be allowed is the use of city long-term debt to finance an annual shortfall between current spending (labor, materials, and interest costs) and current revenues (taxes, fees, and grants) by borrowing "off-the-books" through special project accounts, re-classifying current period expenditures such as janitor salaries as "capital outlays" (once a New York City favorite), underfunding of defined-benefit public employee pensions, or by just "rolling-over" last year's deficit into this year's budget. Enron's chief accountant and financial officer did nothing their public sector counterparts had not tried long before ; see Inman (1983) for details.

There are two potentially important consequences for economic efficiency of undetected deficit financing. First if repaid by city taxpayers, as was the case for New York City and Philadelphia deficits, city property values then fall by the discounted present value of all required

taxes. Hidden city deficits therefore create uncertainty for new investors, uncertainty which will discourage future investment in an otherwise productive city's economy. Second, if not repaid by city residents – a "bailout" as in case of Rio de Janeiro and São Paulo – then the deficit acts as an implicit subsidy to current accounts spending. As a consequence, city spending will be inefficiently too large; see Inman (2003b). To control the first inefficiency, city deficits should be actively monitored by reputable accountants using "generally accepted accounting practices" (GAAP) and the city's surplus or deficit position made known to all potential investors in city properties. Investors will then be able to discount ("capitalize") future taxes into the price they pay for city assets. Lacking reputable monitoring, however, deficit regulation through balanced budget rules may be needed; see Bohn and Inman (1996). To control the second inefficiency, the national government must adopt a credible position against city government bailouts, much like President Ford's response when New York City requested federal assistance following its 1974 fiscal crisis: "Ford to City: Drop Dead." (*New York Daily News*, October 29, 1975); see Inman (2003b). City borrowing is an important tool for efficient city financing, but it must be watched, publicized, and if necessary, regulated.

Fiscal Organization: In organizing the responsibility for city finances, our objective is to ensure that the each dollar raised in taxes is matched by at least a compensating dollar of economic benefits from the provision of city services. The fiscal performance of competitive U.S. suburbs provides compelling evidence in favor of a decentralized system of public financing for city services as a way to ensure marginal benefits exceed or are at least equal to marginal costs in the provision of city services. Mobile and informed households and firms coupled with resident-based taxation for residents, as noted by Hamilton (1975), coupled with business land taxes and user fees for firms,

as noted by Fischel (1975), will lead to such an efficient matching of benefits and costs in local budgets. Families and firms that want more or less public services move to locations that provide what they require and, through targeted resident and business taxes and user fees, pay the marginal costs of the extra services they consume. This sorting of firms and households into locations by their favored service/tax packages has become known as "Tiebout shopping," after Charles Tiebout (1956) who first described the logic of such a marketplace. The empirical evidence strongly supports the efficacy of such a system of fiscal governance; see Brueckner (1982), Rubinfeld (1987), and Nechyba (this Volume).

Can the same combination of resident and business-based taxation coupled with firm and household sorting also work to improve fiscal performance in large cities? It's certainly possible, but first a significant reconfiguration of governing responsibilities for city services will be needed. Service responsibility should be based on a simple principle: Neighborhood services should be financed and managed by neighborhood governments and city-wide services should be financed and managed by city government. The key distinction between neighborhood and city-wide services is the geographic or population size of the community needed to provide the service efficiently, allowing for congestion in resident and business use and service spillovers across locations. For most residential city services economies of scale in population are exhausted with about 20,000 residents and spillovers are rare between communities. For example, education, police and fire protection, trash collection, parks and recreation, and libraries can be well financed and managed by relatively small, neighborhood governments. Where economies of scale or service spillovers are more significant – for example, water and electrical services, telecommunications, trash and waste disposal (but not collection), public health, public transportation, museums and stadiums,

courts and prisons – then city-wide fiscal governance will be appropriate. See Table 1.

Whether managed at the neighborhood or city level, residents should retain the legal right to contract with private suppliers for service provision. The option to "contract out" is particularly appropriate when households are not mobile but suppliers are. The bidding process for the right to provide public services gives immobile residents, often the city's lower income households, the same competitive edge that mobile middle income families now enjoy from Tiebout shopping. But the contracting process must be done with care. It works best when private suppliers' expertise and capital are easily reproduced and entry barriers are low (Williamson, 1976), and when the important dimensions of service output, particularly service quality, are relatively easy to monitor from outside the firm (Hart, Shleifer, and Vishny, 1997). If service quality from the contractor can only be assured by watching the daily performance of the supplier, then there is little to distinguish managing a contractor from managing one's own public employees; you may as well just call the provider "government." Finally when contracting out, it is essential that the neighborhood or city government retain ownership of any unique assets essential for service provision. Public ownership prevents contractor "hold-up" and monopoly pricing. Services that might be provided successfully through contracting out include running and maintaining public transit and communication networks, water and sewer services, roadway and park maintenance, libraries, cultural centers, and trash collection. Services likely to be best provided directly by local government, for reasons of assuring quality control, include police and fire services, public health, courts and prisons, and (though many might disagree) K-12 education. See Table 1. If contracting out is the chosen option, then currently unionized city workers should be allowed to bid (experience counts), and one supplier might service several contiguous neighborhoods as production or purchasing economies require; see

Donahue (1989).

Just as city resident services are best managed by an efficient combination of neighborhood and city governments, so too will be business services, where neighborhood business services might include police and fire, trash collection, and open space maintenance. The decision by many U.S. cities to allow geographically concentrated firms to create "business improvement districts" (BID's) with supplemental taxing and spending powers for district specific services illustrates both the administrative feasibility and the potential economic attractiveness of the "neighborhood" approach for governing local business services; see Briffault (1999). Here too, when economically appropriate, the business improvement district should be allowed to contract out to private firms for the provision of neighborhood services. Again, see Table 1.

There is no reason to think that the families and firms who choose to live and work within the city are any less informed about the quality of their local public goods than their suburban counterparts. Just as we organize local service provision to give choice to suburban residents, so too should we organize the provision of city services. Choice and competition, whether through neighborhood governments or through contracting out, go a long way towards ensuring more efficient city finances and, in the end, maximal firm productivity and household welfare; Rouse (1998), Hoxby (2000), and Holmes, deSimone, and Rupp (2003) provide initial evidence on the point for K-12 education, one of the most important city services.

Fiscal Governance: Once the appropriate financing and organizational structures are in place, the task remains to actually choose the level of city, or neighborhood, spending and taxes. Again we seek to align service marginal benefits with the marginal costs of taxation. Costs are usually known, but how are benefits to be revealed? It is here that we need political institutions and

rules for governance.

Residential Services: Citizens reveal their preferences for city services by voting for city spending, either directly through a referendum or indirectly through the election of a local representative. Though there are many alternative ways to aggregate votes, majority rule has much to recommend it. Specifically, it finds a compromise or median position when one exists; see Young (1997).

While there is no guarantee that the median chosen position will be efficient in the economic sense, it can come close. As long as (1) the efficient residential tax structure applies; (2) all citizens vote; (3) citizen preferences for services are separable in the sense that the chosen level of one service (e.g., education) does not influence the preferred level for another good (e.g., police protection); and (4) the distribution of preferences for any public service is not "too badly skewed," then the majority rule outcome for each public service will approximately satisfy efficiency's requirement that social marginal benefits equal social marginal costs; see Bowen (1943) and Bergstrom (1979). It does not matter if the budget is set by a referendum for each public service or by a "mayor" or "council" elected at-large. In both cases, budget outcomes converge towards the overall median allocation; see Shepsle (1979).

When preferences are not separable, however, then the ordering of the referenda can affect the chosen allocation. In this case, the agenda matters and the agenda-setter can become a dictator. It is essential therefore that the agenda-setter be elected by the citizens. Now city and neighborhood budgets are best decided not by issue-by-issue referenda but rather by elected city or neighborhood representative government. Representative city government can take either of two forms: legislative-only or *council government* or executive-only or *strong mayor government*.

Council governance has a problem, however: policy gridlock. Three or more legislators who differ on how best to spend city money may never be able to reach a majoritarian agreement. A majority of the legislators can always team up to disadvantage a minority, but the excluded minority then has a strong incentive to offer a slightly better deal to one of the majority members to form a new majority. But that budget is then threatened by another deal and a new majority. So it goes, with the risk that no budget gets approved at all. One way to escape gridlock is through legislative log-rolling, allowing each legislator to submit his or her most favored project for inclusion in the budget. To avoid gridlock and the risk of no new spending, legislators now vote to include *all* new initiatives. Such budgeting is likely to be very inefficient, however, much like what happens when a group of friends agree to share the dinner check. Why order salad when you share the costs of everyone else's steak and lobster? At the end of the evening the dinner bill is very expensive, and for the same reasons, so too will be the city's budget.

Further, the more legislators around the city council's "dinner table," the larger will be the *per resident* or *per legislator* budget. Baqir's (2002) study of city budgeting finds that, all else equal, doubling the size of a typical city council, say from the study's sample mean of seven to fourteen members, leads to a 20 percent increase in city spending per resident. Inman's (1995) case study of Philadelphia provides more direct but consistent evidence on the point. In 1979, the leadership of Philadelphia's then nearly all white (there was one black councilman) city council got caught seeking bribes in the federal government's Abscam sting operation. Six of seventeen council members were either convicted or forced to resign, all just before the city's November election. As a result, six new Black and Hispanic members were elected to city council. It is fair to think of this result as a 33 percent increase in effective council membership, as the majority of Philadelphia's

minority neighborhoods received effective representation for the first time. The budgetary consequence of this "natural experiment" was a one-time 25 percent increase in city-wide spending on neighborhood services and a 5 percent increase in overall city spending.

Fortunately, city government is destined neither to gridlock nor to log-rolling. The strong executive form of governance – a neighborhood or city-wide elected executive granted broad agenda-setting powers and a line-item veto – provides a middle ground. Projects whose neighborhood-wide (for neighborhood services) and city-wide (for city services) benefits do not exceed their costs will never appear on the agenda, or if they do, they will be vetoed. Strong executives, perhaps supported by strong local political parties, will typically be able to sustain those vetoes through their control over the votes of the legislature's party members; see Fitts and Inman (1992). Budgets in strong mayor cities are typically less expensive, and arguably more efficient, than the "something for everyone" budgets normally found in council-only cities; see Baqir (2002).

Business Services: Owners of businesses within the city, unless they are residents as well, are not allowed to participate directly in the setting of city fiscal policies. The exception to this rule is in setting policies for "business improvement districts" or BID's. BID's are business associations created by state law and granted supplemental taxing, borrowing, and spending authority for district specific services and capital improvements that benefit business; see Briffault (1999). Little careful thought has been given to how BID's might best decide their assigned fiscal policies, however. Here the new literature on shareholders rights and corporate governance may be instructive. In its fundamental form, a BID is a much like a corporation with business property owners within the BID acting as stockholders whose "share" holdings are proportional to the value of their of business property. Like the corporation, the sole objective of the BID is to maximize the value of business

(stockholder) property wealth. Much as the rule of one share-one vote is the efficient voting rule for corporate control (Harris and Raviv, 1988), wealth-based voting – votes proportional to the market value of property held within the BID – will typically be the efficient means for deciding the BID's public goods spending. Such a rule will allocate greater voting power to the largest property owners in the BID, creating appropriate incentives to collect information on the effects of BID-wide services on value and to ensure efficient monitoring of the BID's management staff; see Shleifer and Vishny (1997). Small shareholders must not be ignored, however, particularly if district projects have differential effects on the value of types of properties. Wealth-based voting insures all property owners will have a say.

Shared Infrastructure: The primary beneficiaries of city-wide infrastructure investments that benefit both residents and businesses will be the residential and business property owners within the city; see Haughwout and Inman (2001). Shared city-wide infrastructure includes access roads and boulevards, telecommunication networks, subways and buses, courts and prisons, airports, parking garages, and sewerage and water systems. Such investments should be debt financed with principal and interest paid using land taxation. Since the ultimate beneficiaries of such investments are property owners, city-wide referenda for approval of debt issuance using wealth-based voting designed to include owners of residential *and* business property is likely to be efficient. It seems appropriate to allow the residentially elected city mayor to set the agenda for city-wide infrastructure referenda, perhaps in consultation with BID representatives.

Fiscal Assistance: As a general rule city residents and firms should be solely responsible for the financing and management of city services listed in Table 1, but there are two instances when outside fiscal assistance may be appropriate. The first arises when the city provides a public service

which qualifies as a national or state constitutionally protected "merit good" demanding equal provision to all residents. K-12 education is the prominent U.S. example with protection provided by state constitutions; see Inman and Rubinfeld (1979) and Murray, et. al. (1998). Protection comes either as guaranteed equal access to tax resources for the financing of education – called "tax base equalization" – or as equal access to a court-defined minimal level of school spending for all children. Even when such protections are not constitutionally required by the state, city residents might wish to offer their own protections for all city children.

To achieve either standard, matching aid is the efficient policy response; see Inman (1999). To ensure all neighborhoods finance local education from a common tax base, local council own tax revenues should be matched at the rate: $m_n = (B^*/B_n - 1)$, where B^* is the target common tax base per child and B_n is the neighborhood's tax base per child. Wealthy neighborhoods where $B^* < B_n$ contribute revenue into the aid program ($m_n < 0$), while poorer neighborhoods where $B^* > B_n$ receive equalization aid ($m_n > 0$). Equalization aid received equals $m_n \cdot (\tau_n \cdot B_n)$. Total neighborhood revenues will now equal own tax revenues ($\tau_n \cdot B_n$) plus equalization aid, or Revenues = $\tau_n \cdot B_n + m_n \cdot (\tau_n \cdot B_n)$ $= \tau_n \cdot B_n(1 + m_n) = \tau_n \cdot B_n(B^*/B_n) = \tau_n \cdot B^*$. Each locally chosen tax rate raises revenues from a common tax base, just as required for tax base equalization.

To ensure that all children receive a minimal level of school spending, the efficient matching grant should stimulate spending in low performing neighborhoods while leaving spending unaffected in high spending neighborhoods. Own neighborhood spending is often well described by a log-linear relationship between spending (g_n), neighborhood average income (I_n, or other pro-education attributes), and the net cost of a dollar spent ($1 - m_n$): $g_n = I_n^{\alpha}(1 - m_n)^{-\beta}$, where α is the income elasticity of demand for spending and β is the (absolute value of) the price elasticity of demand for

school spending; see Rubinfeld (1987). To ensure minimal standards for all children, neighborhoods predicted to spend $g_n < g^*$ should receive a matching grant at the rate $m_n = 1 - (I^{\alpha/\beta}/g^{*1/\beta})$. With such aid, $g_n = g^*$. Neighborhoods predicted to spend $g_n \$ g^*$ already achieve the minimal standard and therefore receive no aid: $m_n / 0$. The minimal standard matching rate falls towards 0 as neighborhoods value education more highly (i.e., as I rises) and rises as the minimum standard increases.

The second case for fiscal assistance to the city budget occurs when the city provides a service with significant positive economic spillovers to non-residents. Plausible examples include city infrastructure spending for intercity transit connections, water and air quality, and telecommunication networks. Residents and city firms may fail to fully internalize the full social benefits of such services when deciding city investment – that is, city-only marginal benefits (CMB_c) may be less than social marginal benefits (SMB_c): $\varphi_c \cdot CMB_c = SMB_c$, where $\varphi_c > 1$. Again a matching grant for city own spending on the relevant service is appropriate, now specified as: $m_c = [1 - (1/\varphi_c)]$; see Inman (1999). Larger marginal spillovers (φ_c increases) require larger matching grants. Such grants should be funded by the largest political jurisdiction affected by city spillovers, generally the city's immediate state or adjacent states. See Table 1.

Are We Asking Too Much? The fiscal and political institutions of city financing proposed here require city residents and firms to monitor the provision of ten or so local services and three local tax rates and to vote three times – for a mayor, for a neighborhood or BID representative or manager, and for infrastructure spending. Might this be institutional overload?

An important lesson learned from California's financing of city services gives us reason to pause in our desire to create new local governments. During its population explosion of the 1970's,

California responded with a new local government for each local service, and each new government was given its own property tax rate. This structure – designed to match marginal benefits to marginal costs as well – would have been fine with stable tax rates, but in California's booming housing market and with court required property reassessments, constant fine tuning of property tax rates became a necessity. When local tax rates were not adjusted downward, the many local governments received large, and largely unintended, increases in homeowner tax revenues. To check this explosion in tax payments, California residents had to complain to as many as ten separate local governments. Citizen control collapsed under the weight of too many local governments. In the end, the only answer was a state-wide cap on total local property taxation at 1% of assessed value, a law known as Proposition 13; see Oakland, 1979. The loss of local control over local taxation led to a decline in overall spending on local services, on local schools in particular, and a fall in the overall quality of city services; see Sonstelie, et. al. (2000).

The proposals here for city financing are not so extreme. The lines for service and tax responsibilities are clearly drawn between the proposed layers of city government, and each resident or firm must decide at most three local tax rates and monitor at most two local governments. This is the current institutional oversight now expected of most suburban residents and firms. There is no reason to believe city residents and firms are not up to these tasks as well.

IV. City Finances and City Value

The economic contribution of city finances to the welfare and profitability of city residents and firms is best measured by what those outside the city are willing to pay to live and work within the city. As long as the benefits from city services exceeds the costs paid through taxes or user fees

to consume those services, then households and firms now outside the city will find moving into the city an attractive option. To consume city services, however, new entrants will need to buy an "admission ticket" into the city. This ticket is a parcel of city land. The price of land will rise until it fully reflects the net gain from city services – benefits minus costs – to firms and households now in, or planning to locate in, the city. Efficient city finances maximize service benefits minus service costs, and as a consequence, city land values as well; see Brueckner (1983). A footprint of more efficient city finances is therefore rising city land prices. There is growing evidence that adopting the service and tax assignments and the institutions of governance recommended in Table 1 will do just that.

Service Assignment and Value: Among city services, the most important *mis*-assignment, at least for U.S. cities, is the required shared fiscal responsibility for poverty services to low-income city residents, services such as public housing, public medical care, child foster care, income transfers and administration. Currently, mandated poverty expenditures impose a tax burden on city middle class families and city firms averaging $400 (Philadelphia) to as much as $600 (New York City) per taxpaying family or about 1 percent of median family income. Not surprisingly, middle class families will be discouraged from locating in such cities, and to the extent city businesses share in this fiscal burden, so too will firms. City land values will decline. Haughwout and Inman (2002), for example, estimate econometrically that over the decades 1970 to 1990 a 10 percent increase in the rate of city poverty, say from .20 to .22, reduced median city home values in U.S. cities by 8 percent in small cities (MSA's with less than 250,000 residents) to 15 percent in large cities (MSA's with greater than 250,000 residents), even after controlling for fiscal assignment and other city fixed effects.

There are three possible effects at work here. The first is simply redistributive; the second and third have important consequences for city economic efficiency. The redistributive effect arises from the fact that the city budget takes tax money from middle class families living in the median value home and gives those resources to low income families. For example, a $400 transfer from city taxpayers to low income residents reduces the value of taxpaying properties by approximately $10,000 if there is full market capitalization at a 4 percent real market interest rate (- $10,000 = - $400/.04), roughly a 16 percent fall in a large U.S. city's median home value of $60,000 in 2000. By this reasoning, a 10 percent increase in the city's share of families in poverty (or equivalently in city poverty spending) will reduce middle income home values by an additional $1,000, or by 1.6 percent. While significant to be sure, such fiscal redistributions alone do not account for the 8 to15 percent effect of poverty on city land values as estimated by Haughwout and Inman (2002). Something more must be going on.

Haughwout and Inman (2002) suggest that part of the larger effect may be due poverty spending's adverse effect on city agglomeration economies as middle class families and firms leave the city as their taxes rise or services decline. The resulting fall in city productive efficiency leads to a further decline in city attractiveness and thus land values. Haughwout-Inman provide an estimate of this second, indirect effect of poverty spending using a general equilibrium model of an open city economy with agglomeration. Calibrated to match the Philadelphia metropolitan economy and the best recent evidence on the economic advantages of city agglomeration, they find a 10 percent increase in city poverty leads to a 10 percent decline in city land values. By the model's specification, this 10 percent decline in value includes both the direct redistribution effect of having more poor families, leading to the direct 1.6 percent fall in value, plus the indirect fiscal

effect of lost city agglomeration economies, accounting for the remaining 8.4 percent fall in value. This 8.4 percent fall in land values is an estimate of the adverse efficiency effect of mandated poverty spending on the city's private economy. Still there remains, at least by Haughwout-Inman's estimates for large cities, an additional 5 percent adverse effect of poverty on city land values not yet explained. What else is going on? A third adverse effect, now a spillover from city poverty to the cost of providing public services to city residents is one possible answer. K-12 education (Dunscombe and Yinger, 1997) and police services (Raphael, This Volume) are likely to be the most affected city services.

The solution to the mis-assignment of poverty spending to cities is to remove the associated unfunded mandates from the city's budget, either directly through state or federal provision or equivalently through state or federal funding of the mandates. Further, if city poverty imposes added production costs for the provision of city services, then matching aid to cover these added costs will be appropriate; see Dunscombe and Yinger (1997). The effects will be exactly what one would expect – a more efficient city economy and rising city land values (Inman, 2003a).

Tax Assignment and Value: Among city taxes, the most important *mis*-assignment, again prominent in U.S. cities, is to allow the use of business taxes to finance residential services. The resulting fiscal redistribution from firms to households discourages firm location within the city, reduces city agglomeration economies and productive efficiency, and thereby depresses city land values. The available empirical evidence strongly suggest city business taxes drive business from the city; see Bartik (1991). Haughwout, et. al. (2004) provide a detailed look at the effects of city sales and labor taxes on the city economies of New York City and Philadelphia over the decades 1970-2000. Given the mobility of shoppers across city boundaries, sales taxes (New York City) and

gross receipts taxes (Philadelphia) will be largely born by city firms. City sales decline and firms leave the city to avoid the tax. Haughwout et. al.'s estimates of the elasticity of city sales with respect to the two taxes are large and statistically significant: -. 5 for New York City and - .3 for Philadelphia. City wage or income taxes have much the same effect. While nominally levied on city residents – though both New York City and Philadelphia also taxed commuters directly during the period of the study – the tax can be avoided by choosing to live, and mostly likely then work, outside the city. This requires city firms to raise city wages by an amount equal to the burden of tax so as to attract workers to the firm. Again a portion of the tax is born by city firms, and firms leave the city. Haughwout et. al.'s estimates of the elasticity of city jobs with respect to city income taxes are also significant: -. 2 for New York City and - .4 for Philadelphia. The larger effect for Philadelphia likely reflects the relatively larger tax rate on commuters in this city, a tax whose direct burden is more nearly fully born by city firms.

While business taxes drive firms from cities, it is not obvious that city land values fall. Residents still benefit from the fiscal redistribution. Land values may rise if the residents' demands for city locations more than offsets lost business demand. This does not appear to be the case, however, when agglomeration economies are present. A general equilibrium analysis of the Philadelphia city economy finds that even with modest agglomeration the elasticity of city land values with respect to business taxation can be sizeable: - 1.3 with respect to a tax on business capital (Haughwout-Inman, 2002) and -.2 with respect to a wage or commuter tax on labor (Inman, 2003a). Voith's (2003) recent econometric study of the effects of the Philadelphia commuter wage tax on city property values finds comparable elasticities.

As recommended by Table 1, the solution here is to substitute business land taxation and

business user fees for direct taxes on business sales, capital, and labor. Pittsburgh did just this in 1979 as part of an overall economic development reform. The city significantly increased the rate of land taxation, offered exemptions from taxation on new business structures, and held the line on city wage taxation. The tax reforms appear to have made a significant difference for the Pittsburgh economy. Oates and Schwab (1997) compared the trend in the value of new building permits (a correlate with city land values) in fifteen cities in the industrial Midwest over the decades 1960-1989. Until 1979, the trend is either flat or downward in all cities including Pittsburgh; cities were either stagnant or in decline. After the 1979 tax reforms, however, Pittsburgh breaks away from the group and shows a significant upward jump in the value of new construction by an amount nearly sufficient to offset in ten years the previous twenty years of declines. Oates and Schwab are careful to note that such business tax reforms alone will not save a declining city, but if residents and firms want to live and work in a particular location – and Pittsburgh in the 1980's was such a city – then an efficient tax structure allows the city to reach its full economic potential.

Governance and Value: Though the appropriate assignments of spending responsibilities and financing instruments are necessary for efficient city finances, they are not sufficient. City politicians who implement those assignments must have an incentive to do so in ways that maximize the economic net fiscal benefits to city residents and firms. The institutions of city governance must align the political interests of elected city officials to the economic interests of those who live and work within the city. Table 1 suggests that fiscal competition between local neighborhood governments for services that can be efficiently provided to small communities of say 10,000 to 20,000 families coupled with a strong mayor form of governance for city-wide services and infrastructure might be such a governance structure. What's the evidence?

There is little doubt that citizens are willing to pay for good local public services offered at low tax rates and that they do so through the purchase of land in communities or neighborhoods that offer a favored fiscal package; see Rubinfeld (1987) and Nechyba (This Volume) for reviews. When the service and tax package is efficiently provided then local land values will be maximized; see Brueckner (1983). Communities that over- or underspend relative to resident preferences will see their land values decline. Barrow and Rouse (2004) use this observation to econometrically test for the efficiency in the provision of K-12 education across 9,000 local school districts in the United States; overspending districts will see their property values decline as spending increases. This is indeed what Barrow and Rouse find. Most relevant for the arguments here, their results strongly support the proposition that fiscal competition encourages fiscal efficiency. Efficient school districts are more likely to be found in counties with many school districts, and all else equal, central city school districts are less efficient than small and median sized school districts. Further, it appears to be fiscal choice by residents that provides the discipline. Brueckner's (1982) study of Massachusetts communities in fiscal year 1976 reached much the same conclusions as Barrow and Rouse, but then in November, 1980 Massachusetts passed Proposition 2½ limiting local taxation to 2.5 percent of local property values. Those communities not in compliance with the law were required to reduce revenues and spending until the constraint was met. Examining local property values in 1992, Lang and Jian (2004) found that all communities facing a binding spending limitation suffered significant declines in local property values. Choice plus competition appear to promote local government fiscal efficiency. Still large cities seem immune to these disciplinary pressures.

One possible explanation for overspending in large U.S. cities is the control over service

provision given to public employee unions where state law requires an "explicit-duty-to-bargain." Residents in these cities cannot set wages, benefits, and employment levels (e.g., class size for education) without an agreement with the union. "Contracting out" also must be negotiated. If the net effect of such strong unionization is fiscal inefficiency, then residents and firms who can leave the city will choose to do so. City land values should decline. This is just what Haughwout and Inman (2002) find in their study of large city finances, where cities with strong unions depress city land values by an average of 12 percent. The fact that suburban land values also decline in the MSA's with strong union cities – by an average of 7 percent – suggests these fiscal inefficiencies lead to private sector inefficiencies as well, presumably through lost agglomeration economies as firms and middle income households leave the city; see Haughwout and Inman (2002). Fiscal competition provided by neighborhood governments with neighborhood negotiated labor contracts or contracting out generally could serve to check these union-induced fiscal inefficiencies; see Hoxby (1996).

A second explanation for large city fiscal inefficiencies is the need for political logrolls between locally elected city legislators when deciding the city's budget. The evidence is clear that such deal-making leads to higher spending – about $450 more per city family when council size is doubled – and that a strong mayor with a veto can fully neutralize the increases; see Baqir (2002). But is this extra spending inefficient? The evidence from Haughwout and Inman (2002) is again suggestive on the point. Property values in large cities with council-only form of governance are 4 percent lower than in city's with strong mayor governance, a lose in value of about $2100 per central city home. So too in the suburbs, as this apparent fiscal inefficiency induces a less efficient private economy with lost agglomeration economies; in MSA's whose cities have council-only

governance, suburban property values are 5 percent lower, or a loss of about $2,800 per suburban home.

We should also ask: How inefficient is this extra spending? Combining the Baqir spending estimates with the Haughwout-Inman capitalization estimates – both studies sample all large U.S. cities in the 1990's – suggests, with a bit of creative accounting, that each extra dollar of council-only spending generates perhaps only $.33 in net economic benefits. From Haughwout-Inman, the total loss in MSA property values because of council-only governance is $7,700/city family (= $2,100/city family + [$2,800/suburban family]·2 suburban families/city family) or $300/city family in lost economic value per year assuming a real interest rate of 4 percent (= .04·$7,700). From Baqir, council-only governance adds about $450 per year in city spending. Thus, the net economic gain from council-induced spending is only $150/city family (= $450/city family - $300/city family), or about $.33 per marginal dollar spent. While only an example, these calculations make a quite general point. The institutions of fiscal governance, like those of fiscal assignment, matter for ensuring an efficient city.

VI. Conclusion

All economies do two things: first create and then divide an economic surplus. City economies are no different. What make city economies unique and therefore not easily reproducible are their natural location advantages and their, perhaps historically dictated, agglomeration economies. Once in place, city productive assets should be employed as efficiently as possible. To that end, a well run city government is essential, providing those goods and services that best complement the city's private economy. Public infrastructure investments in access and local roads

and public transit, in waste disposal, in telecommunications, in electrical generation and distribution and on-going service provision for K-12 education, public safety, environmental quality, public health, and the cultural life of residents are all part of the efficient city's service portfolio. The appropriate financial instruments to fund these services are income and/or property taxes on city residents and land taxes and user fees on city firms. To ensure that each dollar of revenues raised provides at least a compensating dollar of benefit in services provided, city governance must allow for competition and choice when the efficient scale of city services are relatively small and strong, but democratically elected, mayoral leadership when the efficient scale of services is city-wide. The evidence suggests that such a structure of fiscal assignment and governance goes a long way towards ensuring an economically efficient, surplus maximizing city.

It is in dividing the city's surplus that fiscal inefficiencies might then arise. Requiring cities to fund a significant share of poverty services for low income households, allowing residents to tax business assets to pay for residential services, granting public employee unions monopoly control over the provision of public services, and adopting a system of fiscal governance which encourages a "something-for-everyone" budget all lead to a less efficient public sector and, in the end, a less efficient private sector too.

The central lesson of this essay is clear: Efficient city finances facilitate efficient private economies, but we must leave to city finances those tasks it can do well, namely, the provision of public services that facilitate the city's competitive position in the wider private market economy.

TABLE 1: FINANCING CITIES EFFICIENTLY

LOCAL SERVICE	FINANCED BY:	ORGANIZED AS:	GOVERNED BY:	ASSISTANCE BY:
RESIDENTIAL SERVICES: K-12 Education	Neighborhood Residential Property or Income Taxation *or* Resident User Fees	Neighborhood Council	Majority Rule in a Neighborhood Council Elected by One Person One Vote from Neighborhood Residents	City-Wide or State-Wide *Matching* Equalization Aid
RESIDENTIAL SERVICES: Police/Fire Patrols	Neighborhood Residential Property or Income Taxation	Neighborhood Council	Majority Rule in a Neighborhood Council Elected by One Person One Vote from Neighborhood Residents	–
RESIDENTIAL SERVICES: Trash Collection Parks and Recreation Libraries	Neighborhood Residential Property or Income Taxation *or* Resident User Fees	Neighborhood Council with an *Option to Contract* to a Private Firm	Majority Rule in a Neighborhood Council Elected by One Person One Vote from Neighborhood Residents	–
RESIDENTIAL SERVICES: K-12 Equalization Aid Courts and Prisons	City Surcharge on Residential Property or Income Taxation	City Mayor	Strong City Mayor Elected by One Person One Vote of City Residents	–
RESIDENTIAL SERVICES: Higher Education Water/Electricity Public Health	City Surcharge on Residential Property or Income Taxation *plus* User Fees	City Mayor with an *Option to Contract* to a Private Firm	Strong City Mayor Elected by One Person One Vote of City Residents	–
RESIDENTIAL INFRASTRUCTURE: Research Library/Museums Concert Hall/Sports Stadiums	City-Wide Debt Paid for by City Surcharge on Residential Property or Income Taxation *plus* User Fees	City Mayor with an *Option to Contract* to a Private Firm	Strong City Mayor Elected by One Person One Vote of City Residents	–

BUSINESS SERVICES: Police/Fire Patrols	Business District Land Taxes *or* Business User Fees	Business District/Neighborhood Council	Majority Rule in a Business District Council Elected by Voting in Proportion to Assessed Business Land Values	–
BUSINESS SERVICES: Trash Collection Open Space Maintenance	Business District Land Taxes *or* Business User Fees	Business District with an *Option to Contract* to a Private Firm	Majority Rule in a Business District Council Elected by Voting in Proportion to Assessed Business Land Values	–
SHARED INFRASTRUCTURE: Roadways and Parking Water, Sewer, Electricity Telecommunications Airports and Ports	City-Wide Debt Paid for by City Surcharge on Residential and Business Taxation *plus* User Fees	City Mayor with an *Option to Contract* to a Private Firm	Strong City Mayor Elected by One Person One Vote of City Residents in Consultation with Business District Representatives	State-Wide or Multi-State *Matching* Aid for Environmental Spillovers & Transit/Communications Interdependencies

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