Should Philadelphia's Suburbs Help Their Central City?

BY ROBERT P. INMAN

T he United States is unique in its commitment to local government as the primary provider of essential public services and in its use of local taxes as the primary means for paying for these services. The Philadelphia metropolitan area is typical of the U.S. pattern. But the city of Philadelphia faces the burdens and responsibilities of all older central cities, including a higher proportion of poor residents than its surrounding suburbs. Such circumstances lead the city to impose higher taxes on city residents, workers, and businesses. Raising revenues through higher taxes, however, becomes self-defeating when tax rates drive people and businesses away. The result is a weaker city and regional economy. How can Philadelphia strengthen its finances? Bob Inman proposes a targeted program of suburban assistance to lower the commuter wage tax and presents evidence that such a program is likely to benefit city and suburban residents alike.

Should the residents of Philadelphia's suburbs — Bucks, Chester, Delaware, and Montgomery

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counties — contribute to the financing of services provided to city residents and businesses? The United States is unique in its commitment to local government as the primary provider of essential public services and in its use of local taxes as the central means for paying for these services. The Philadelphia metropolitan area is typical of the U.S. pattern. In the five counties that comprise the Pennsylvania portion of the Philadelphia metropolitan area, there are 243 municipal governments and 62

separate school districts servicing a combined population of 3.85 million residents.[1] Local property taxes and, particularly in the case of the Philadelphia region, local resident wage and income taxes are the primary sources of locally raised revenues. In the Delaware Valley, property taxes account for 58 percent and wage/income taxes an additional 28 percent of all locally raised revenues. Locally raised revenues pay for 77 percent of local government and school district spending in the five-county Philadelphia area. Fiscal transfers from the state cover most of the remaining 23 percent.

While only one of many local governments in the metropolitan area, the city of Philadelphia is arguably the region's economic, cultural, and entertainment center. The city has 34 percent of the five-county region's jobs. There are 12 Fortune 500 corporate headquarters in the five-county area, and eight of those headquarters are located in Philadelphia. Four of the nation's 100 largest law firms have their home offices in Philadelphia. Philadelphia's four medical schools are national leaders in patient care and medical research. Together, the four schools currently receive more than $550 million a year in National Institutes of Health funds for faculty research. Higher education is a major industry for the region, and 46 percent of the

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[1] There are also four New Jersey counties included in the official definition of the Philadelphia metropolitan statistical area (MSA). For the reasons noted in footnote 9, these counties are not included in this paper's policy analysis.

region's college and graduate school enrollees attend Philadelphia universities. The Philadelphia Orchestra, the Curtis Institute of Music, the Philadelphia Museum of Art, the Franklin Institute, and the Philadelphia Zoo are world-recognized centers of arts and science education. Philadelphia has the area's four major league sports franchises. There are 13 professional theaters providing full seasons, two professional dance companies, and nine music venues featuring artists from major record labels. Of the region's 318 restaurants rated excellent by the 2002 *Zagat's Guide*, 220 are in Philadelphia.

Though it is the economic and entertainment center of the region, Philadelphia also faces the burdens and responsibilities of all older central cities. Philadelphia is home to most of the region's poor and elderly households. While the city has 39 percent of the region's population, it has 70 percent of the region's poor. Philadelphia residents also face significantly higher rates of crime. In 1998, the rate of violent crime was 1465 per 100,000 residents in Philadelphia, yet only 286 per 100,000 residents in the suburbs; the rate of property crime was 5855 per 100,000 in Philadelphia compared with 2503 per 100,000 in the suburbs. These higher service burdens from poverty and crime necessarily translate into higher city tax rates. The overall tax burden for a typical homeowner in Philadelphia is 14.4 percent of family income but only 9.5 percent for an identical family living and working in the suburbs. A similar differential tax burden holds for a typical city firm. Leaving the city for a suburban location will lower a firm's effective state and local tax burden on profits from 16.5 percent to 13.2 percent.[2]

[2] The estimates of local tax burdens are available from my biennial report on local taxation, "Local Taxes and the Economic Future of Philadelphia: 2002 Report."

The unique fiscal burdens that Philadelphia faces contribute importantly to these tax differentials. The danger is that these added burdens — and resulting higher tax rates — will undermine the city's economic, cultural, and entertainment advantages to the detriment of all residents in the five-county region. Large cities often have significant cost advantages, known as agglomeration economies, in producing and providing goods and services. These agglomeration economies arise when firms, retail stores, or cultural activities are concentrated in common and usually small geographic areas within the city. High tax rates and low quality public services, however, may drive firms and middle and upper income households from the city. As firms and families exit, city agglomeration economies are lost. The loss of agglomeration economies leads to higher prices for city-produced goods and services. Population and income grow more slowly or decline, and house values in the city and suburbs fall. In the end, the region as a whole loses, not just the central city.

The solution is to strengthen city finances. To this end, suburban residents might wish to make a contribution, most realistically done through adjustments in state assistance to local governments. *If* done correctly, suburban fiscal assistance to the central city can be a high-return investment in suburban jobs, growth, and house values.

Here I offer one proposal for such assistance, a targeted program of suburban assistance to lower the commuter wage tax. With this reform,

city and suburban homeowners both gain; regional home values are predicted to rise by $2.1 billion, or about $2250 per family.

THE ECONOMIC CONNECTION BETWEEN CITY AND SUBURBS

There are two potential links from the city economy to suburban residents' economic welfare: jobs and wage income for suburban commuters and the market price for city-produced goods and services purchased by suburban firms and residents. For a typical suburban resident, the primary economic advantage of a strong city economy lies in the ability of city firms to provide goods and services at prices lower than (or, equivalently, at a quality higher than) what might be available from suburban firms or from firms outside the metropolitan region.[3] The central city's economic advantage can arise from either of two sources: natural advantages because of the city's proximity to an important production input such as power or raw materials (e.g., Pittsburgh's history as a steel production center), or agglomeration advantages facilitated by the density of firms and households within the city. For U.S. cities today, the likely source of any advantage is agglomeration economies.

Agglomeration economies benefit producers and consumers of city-produced goods and services. A high

[3] See the article by Richard Voith for more about the advantages commuter suburbanites derive from a strong city economy, with particular reference to Philadelphia commuters.

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density of firms within the same industry — called Marshallian agglomeration in honor of Alfred Marshall's initial analysis — leads to lower shipping costs for firms' inputs when there are economies of scale in transportation (e.g., coal and iron ore to the steel mills of Pittsburgh and Gary). The density of firms may also lower labor costs in industries when laid-off workers from a declining firm are quickly hired by an expanding firm. This will be the case in industries where brand loyalty is weak and current fads define consumer demands, for example, the fashion industry in New York, the entertainment industry in Los Angeles, and the "dot.com" industries of Silicon Valley. Having many firms in the same local labor market reduces the unemployment risk to workers with unique talents and therefore allows all firms in the market to pay a lower wage. For much the same reason, a high density of firms in the same industry may also encourage supplier innovation and specialization, again lowering firms' production costs. Furthermore, low-cost production technologies are likely to be more quickly copied when firms and workers are in close proximity. These idea "spillovers" may occur within or across industries, an advantage called Jacobian agglomeration for Jane Jacobs' insightful analysis of growing city economies. Finally, a high density of households and firms gives rise to agglomeration advantages in retailing and consumer services, for example, dining, specialty shopping, and entertainment. In Philadelphia, South Street, Rittenhouse Square, and the Avenue of the Arts are lively examples.

A growing body of economic research has demonstrated the presence and importance of agglomeration economies in regional economies. This research has found that concentration of industry employment has a statistically significant and quantitatively important effect on plant productivity.

For example, Mark Beardsell and Vernon Henderson found that doubling the number of computer firms in a given location increases the productivity of those firms as much as 17 percent; little wonder, then, that the Silicon Valley has become the world's leader for computer industry production and innovation. Though not as dramatic, the findings of Antonio Ciccone and Robert Hall showed that overall employment concentration also improves worker productivity; doubling county-level employment density within a state improves all worker productivity in that state by 6 percent. Ciccone has found a similar effect of employment concentration on worker productivity in European firms.[4] Finally, Stuart Rosenthal and William Strange find that the benefits of employment density occur within small geographical areas and are typically exhausted beyond a distance of five miles. The Rosenthal-Strange results suggest, importantly, that the spatial reach of agglomeration advantages will typically be confined within a political jurisdiction. For historical reasons, that political jurisdiction is most often the region's central city.

The gain to city and suburban residents of living in or near a productive central city comes largely from their ability to buy city-produced goods and services at comparatively low prices.

[4] In addition, there is preliminary evidence that an increased density of firms not only increases the initial equilibrium level of regional production and incomes but it may also stimulate higher economic growth as well, primarily through the sharing of ideas and innovation. See the article by Edward Glaeser, Hedi Kallal, Jose Scheinkman, and Andrei Shleifer and the one by Vernon Henderson, Ari Kuncoro, and Matt Turner. In his *Business Review* article, Gerald Carlino has provided a valuable survey of the theory and evidence on agglomeration economies and the economic performance of cities and regions.

This advantage is larger the more goods and services suburban households and firms buy from city producers and the greater are the cost and shipping advantages those city producers have over their closest competitors. For suburban residents in the Philadelphia metropolitan area, it is cheaper to buy expert legal advice, accounting services, life-saving medical care, or first-run professional entertainment from Philadelphia businesses and venues than from those in New York, Baltimore, or

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Washington, D.C. James Rauch has shown that the ultimate beneficiaries of access to low-cost goods and services due to agglomeration economies are the region's workers and home owners. Wages and house prices are higher in economically more efficient regions.

Low quality public services or high city taxes are one important factor that might undo this economic advantage, however. On this point the evidence is clear. My research for Philadelphia —now confirmed in companion studies for Houston, Minneapolis, and New York City — shows unequivocally that high city taxes unmatched by compensating service benefits will drive middle- and upper-income taxpayers and businesses from

the city, first to the surrounding suburbs, but just as likely, to other regions of the country as well.[5] For example, I estimate that Philadelphia lost 207,000 jobs over the past 30 years solely because of increases in the city's wage tax rate. Most damaging for the location of businesses in Philadelphia is the city's nonresident portion of the wage tax, a tax whose burden is largely shifted back onto city businesses as workers with suburban job alternatives require a wage increase to compensate for the city's tax. The recent wage tax cuts proposed by former Philadelphia mayor Ed Rendell and the current mayor, John Street, are estimated to have restored approximately 12,000 of the jobs previously lost. Similar adverse effects of high taxes on city property values and city jobs have shown up in Houston, Minneapolis, and New York City.

The loss of city jobs due to high city taxes will mean a reduction in the city's production advantage because of lost agglomeration economies. In our 2002 study, Andrew Haughwout and I tested empirically the argument that weak public finances in the central city can undermine private-sector economic performance, for both city and suburban residents. Our study seeks to explain the growth in city and suburban incomes, populations, and house values over the decade 1980 to 1990 for the 195 largest metropolitan areas in the United States. Weak city finances are measured in this study by four separate indicators of budgetary pressure: the share of city spending paid for through taxation of

businesses and middle-class residents; whether the city is required by state law to bargain with its public employee unions; whether the city lacks mayoral veto control over city budgets; and the fiscal burden of city poverty (Table 1).

Columns (1) and (2) of Table 1 show what happened to house values in the average U.S. central city and its surrounding suburbs because of weak city finances during the 1980s, the most recent decade for which we have complete information.[6] On average, the share of city taxes borne by middle and upper income residents and firms rose 1 percent over the decade (Change in SHARE). The consequence was to depress house values in the average city by $3638, or about 7 percent of the initial 1980 value. Importantly, the house values in the average suburb fell too, by $2468, or about 4 percent of their initial 1980 values. (See *Understanding the Economics Behind Table 1*.)

Cities that are required by state law to hire their labor services exclusively from public employee unions (BARGAIN) typically face higher labor costs, and this raises city taxes. Again, higher taxes without compensating service benefits drive households and firms from the city, and city and suburban house values decline from what they might have been had the city retained the right to hire nonunion public employees — that is, to contract out. The average city house loses $5358, or 11 percent of its initial 1980 value, by being in a strong union city. Suburban

house values fall too, now by $4047, or 8 percent of their 1980 values.[7]

The same adverse effects on city and suburban house values, though not as large, are seen when city budgets are decided by a majority of ward-elected city council members, unchecked by a constitutionally strong mayor with veto powers (GOVERNANCE). The budgets of such governments typically favor neighborhood services, with tax burdens allocated toward business. We should expect to see an exit of businesses from the city, lost agglomeration economies, higher prices for city goods, and for this reason, lower city and suburban house values. This is what we find. City house values are lower in weak governance cities by an average of $1948 (4 percent of 1980 values) while house values in suburbs surrounding a weak governance city fall an average of $3035, or 6 percent of 1980 values (see Table 1). Interestingly, in cities with weak fiscal governance, we see suburban house values falling more than city house values, but this too makes sense if city

[5] See the article by Andrew Haughwout, Robert Inman, Steven Craig, and Thomas Luce. The conclusion that high taxes and low services depress local economies is now a well-established fact more generally, and Timothy Bartik provides an excellent review of this research.

[6] Our full study reports the effects of weak city finances on city and suburban incomes and population as well; see Haughwout and Inman (2002). Elsewhere we have shown that changes in house values are the best single predictor of changes in the economic welfare of residents in a metropolitan area, so I shall focus on these results here; see also the 2001 article by Haughwout and Inman.

[7] While the typical city or suburban resident loses by living in or near a strong union city, unionized city workers are net winners. Although the value of a unionized city employee's house falls like the house values of all residents, the worker is compensated by his or her gain in personal income. Estimates of the premium unionized city employees earn above what they might earn in their next best private-sector job are typically 3 to 8 percent of the worker's wage; see the article by Richard Freeman and Robert Valletta. For a unionized city employee earning $30,000 a year, this is an annual wage premium of $900 to $2400 per year. Unionization reduces house values by $5358 in the city and $4047 in the suburbs, implying an equivalent annual loss in value of $270 a year for a city house and $200 per year for a suburban house when interest rates are 5 percent. Conservatively, then, the typical unionized city worker in a strong union city gains $900 to $2400 in wages each year and loses from $200 to $270 a year in declining house value. On balance, city employees gain when working in cities with strong public-sector unions.

TABLE 1

City Finances and Metropolitan Area Home Values

	Estimates from a regression model based on data from 195 U.S. metro areas		Estimates from a simulation model of the Philadelphia area economy	
	Estimated Change in Average U.S. City Home Value (1)	Estimated Change in Average U.S. Surburban Home Value (2)	Estimated Change in Average Philadelphia City Home Value (3)	Estimated Change in Average Philadelphia Suburban Home Value (4)
Change in SHARE	-$3638 (974)	-$2468 (873)	-$265	-$1224
BARGAIN	-$5358 (1739)	-$4047 (1563)	-$7184	-$5902
GOVERNANCE	-$1948 (1052)	-$3035 (946)	—	—
Change in POVERTY	-$12,345 (2460)	-$6696 (2212)	-$410	-$15

Columns 1 and 2: Source: Table 6, Haughwout and Inman (2002). The standard error of the estimated change in the city median house value is presented in parentheses below each estimate. Columns 3 and 4: Estimates of changes in the Philadelphia and suburban median home values are computed using an equilibrium political economy model of the Philadelphia MSA, calibrated to match the Philadelphia MSA for the decade 1980-90. The simulation model is described in an appendix to this article. Estimated changes in city and suburban home values are computed for each of the following four changes in the underlying structure of Philadelphia's public finances: Change in SHARE, allowing for the increase in the middle and upper income families' share of city taxes for 1980-90 because of the change in the percent of Philadelphia's population who are poor or over the age of 65; BARGAIN allowing for a 20 percent increase in the real cost of city services for 1980-90 because of the 32.9 percent increase in the real cost of city workers' compensation over the decade; the constitutional form of city GOVERNANCE remained constant over the decade as the city retained its strong mayor form of government and thus there is no impact on city budgetary costs nor city and suburban home values; Change in POVERTY, allowing for the decline in the city's rate of poverty from 20.6 percent to 20.3 percent and the mandated increase in the city's real (inflation-adjusted) contribution for services for low-income households of approximately $200 per poor household.

residents gain at the expense of city businesses. Unfortunately, what city residents seem to gain from their budget is more than offset by what they lose from the decline in the city's economy.

The most damaging change for our nation's largest cities during the 1980s came from the growth in the rate of urban poverty (Change in POVERTY) and associated increases in city

spending and taxes. If the city's rate of poverty increased — and this was the case for most U.S. cities — the resulting added tax burden must be spread over relatively fewer middle-class and

UNDERSTANDING THE ECONOMICS BEHIND TABLE 1

The estimated effects of weak city finances reported in Table 1, columns (1) and (2), are statistical estimates of the effects of weak city finances on city and suburban home values for a sample of the largest 195 U.S. metropolitan areas for the decade 1980-1990. The estimates in Table 1, columns (3) and (4), are estimates for the effects of changes in the same city fiscal variables on Philadelphia city and area suburban home values for the decade 1980-1990 derived from an economic model of the metropolitan area economy. An Appendix to this article provides a brief summary, and Haughwout and Inman's 2002 article provides the technical details. An important question to ask of any statistical estimation or model prediction is: *Do the numbers make economic sense?*

These do. Here is a working example using typical family incomes, consumption, and interest rates for the 1980s. Start with a suburban

family that, over the 1980s, spent $50,000 per year, of which $10,000 is allocated to city-produced goods and services. Remember, these goods do not have to be consumed in the city, but simply made there or processed and shipped by city businesses. If a higher city tax share leads to the exit of city businesses and lost agglomeration economies, how much would prices of city-produced goods have to increase to justify a $2500 decrease in suburban house values (Column 2, Table 1)? Prices of city-produced goods would have to rise only 1.25 percent. Suburban residents would pay $125 more per year for their city-produced goods, and they would lose this $125 every year. An annual loss of $125 is economically equivalent to the estimated loss in house value of $2500 when the real interest rate is 5 percent.

What about city residents? They suffer the same losses from high prices for city goods, so their house values should also fall by $2500 because of lost agglomeration. But as seen in the

first entry of column 1 in Table 1, the estimated average decline in city house values is $3600. The additional $1100 loss in value must come from the direct adverse effects of higher city tax shares. In our sample, on average, the city budget is $6000 per family and the typical middle-income resident's share of city taxes is about 0.50. So an increase of 0.01 in the tax share means an increase of about $60 each year in tax payments ((0.51-0.50) x $6000 = $60).

But again this is an annual loss that will be economically equivalent to a one-time value loss of $1200 when real interest rates are 5 percent. City residents lose $2500 because of lost agglomeration and an additional $1200 because of higher taxes. In this example, the total loss for a typical city house will then be $3700, again very close to the estimate in Table 1. Similar calculations can be made for all the numbers in Table 1; they are all plausible.

business taxpayers. The rise in city taxes because of the average increase in the rate of city poverty, which was 3 percent, led to an average loss in city house values over the decade of $12,345, a decline of more than 25 percent.

Rising city poverty, rising city taxes, and a shrinking city economy affect the suburbs, too. We estimate the average decline in suburban house values over the decade from the growth in city poverty equaled $6696, or 13

percent of the original 1980 suburban house value. When central cities become poorer or the fiscal burden from each poor household increases, city residents lose, but importantly, so too do residents in the city's surrounding suburbs. The path from city poverty to suburban house values may be round-about — from higher city poverty and city taxes to a weaker city, then regional, economy — but the impact is significant nonetheless.

Finally, each of the four

sources of weak city finances is largely outside the direct control of any city's mayor. To be sure, poor fiscal management by a city's mayor or elected council will also lead to higher city taxes and lower city and suburban property values, but that is not what we are measuring in Table 1. Tax laws, the rules of labor bargaining, the city charter, federal and state mandates, the rate of city poverty — these are the determinants of weak city finances as measured here, and each is given to, not chosen

by, the mayor. If a mayor is dealt weak fiscal institutions, it should be no surprise that the city and its region lose economically over time.

THE PHILADELPHIA CONNECTION

The estimated effects of weak city finances on city and suburban house values reported in columns (1) and (2) of Table 1 are for a national average city and its suburbs. While Philadelphia is included in the Haughwout-Inman national study, those results cannot be applied directly to Philadelphia. Perhaps Philadelphia was one of the lucky cities dealt a winning fiscal hand. Unfortunately, my estimates from an economic model of the Philadelphia metropolitan economy show this is not the case.[8] Philadelphia faced many of the same fiscal difficulties during the 1980s as our national sample. The results in columns (3) and (4) of Table 1 show that while the losses were not as large as those felt nationally, Philadelphia and its suburbs suffered

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[8] The estimates in columns 3 and 4 of Table 1 for the Philadelphia economy are computed using a general equilibrium simulation model for the Philadelphia metropolitan area, calibrated to match the economic and political structure of the five Pennsylvania counties in the Philadelphia MSA for the decade 1980 to 1990; see the Appendix. Ideally, I would have replicated the statistical analysis of the national city sample for a sample comprising only Philadelphia and its suburbs, but unfortunately, this is not possible because the required number of years of suburban data are not available. In the simulation model, the fundamental economic relationship that determines the results in columns 3 and 4 of Table 1 is the efficiency advantage of city agglomeration economies; the stronger these economies are, the larger will be the adverse effects of weak city public finances. For this analysis, I select a very conservative elasticity of Philadelphia city output with respect to city firm density of only 0.01; the national average elasticity of worker productivity with respect to firm density is 0.06, as estimated by Ciccone and Hall.

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significant economic losses during the 1980s from weakened city finances.[9] (See An *Economic Model of Philadelphia and Its Suburbs*.)

First, as was true nationally, the share of Philadelphia taxes borne by its middle- and upper- income households (Change in SHARE) rose 1 percentage point, from 50 percent in 1979 to 51

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[9] The four New Jersey counties of the Philadelphia MSA are not included in the simulation analysis for two reasons. First, New Jersey now rebates the Philadelphia commuter tax for New Jersey suburban residents. This different treatment of an important city tax requires separate analyses for the Pennsylvania and New Jersey suburbs of Philadelphia. Second, since our focus is on the economic returns to reforming city and suburban financing of city services, I have chosen what seemed to be the most politically realistic group of suburban counties to be included in any such reforms. Those counties are in Pennsylvania alone.

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suburban home values. This appears to have been the case in Philadelphia as well. Over the decade, Philadelphia's public-employee unions were able to negotiate labor contracts that increased real — that is, inflation-adjusted — compensation for city employees 33 percent, equal to an annual real rate of growth of 2.89 percent in city workers'

The city's adverse fiscal changes over the 1980s are estimated to have reduced the value of a typical city and suburban house each by about $8000.

percent by 1989. The causes in Philadelphia were the aging of the city's population and the city's continued loss of manufacturing jobs. The rise in middle-class tax burdens led to a predicted fall in city and suburban house values (Table 1, columns 3 and 4).

Second, Philadelphia's public employees enjoy an exclusive right to bargain with the city. Thus, Philadelphia qualified as a strong union city (BARGAIN) in the Haughwout-Inman national study reported in columns (1) and (2) of Table 1. Each strong union city in that study had its own bargaining experience with unions, but on average, those unions increased labor costs and city taxes and depressed city and

pay. This increase in Philadelphia's real costs of public employees' labor services led to higher city taxes and, as was true for the national sample of strong union cities, significantly lower city and suburban house values. Our estimates of the effect that strong public-employee unions have on Philadelphia city and suburban house values appear in columns (3) and (4) of Table 1.

Third, there was no change in city governance (GOVERNANCE) over the decade; Philadelphia had, and continues to have, the strong mayor form of city government. This row in Table 1, therefore, shows no changes.

Finally, while the burden of city poverty on Philadelphia's budget is high and has an important negative effect on the performance of the regional economy, as we will see below, the 1980s did not add significantly to that burden. Thus, the net economic effects of the change in the rate of poverty (Change in POVERTY) were small as well. The share of Philadelphians living in poverty fell slightly over the decade from 0.206 to 0.203. There was, however, a small offsetting increase in the city's cost of serving that population.[10] Overall, poverty's fiscal burden on the city rose only slightly, and the estimated additional damage done to

city and suburban house values is barely noticeable.

All together, the city's adverse fiscal changes over the 1980s are estimated to have reduced the value of a typical city and suburban house each by about $8000, a loss in value of 9 percent for Philadelphia home owners and 6 percent for suburban home owners.[11] Far and away the most important cause of these economic losses for our region was the increase in city taxes required to fund the significant growth in the real compensation of the city's public employees.

INVESTING IN STRONGER CITY FINANCES: A STRATEGY FOR GROWTH IN THE PHILADELPHIA REGION

Both in the nation and in Philadelphia, weak city finances lead to the exit of mobile city firms and households, a less efficient city economy, and lower incomes and house values for the region as a whole. Strong city finances protect a city's economic efficiency and a region's income and wealth. What might we do to strengthen Philadelphia's city finances, and what will be the gains to city and suburban residents from such a strategy?

Three Possibilities. The analysis in Table 1 identifies three possible directions in which the current structure of Philadelphia's finances might be improved. First, reduce the city's relative tax burden on mobile middle-class households and city firms.

Second, control the ability of the city's public employee unions to win favorable compensation packages with greater-than-inflation increases. Third, reduce the city's fiscal obligation for services to lower income households.

On its own, Philadelphia has already made significant progress on two of these three fronts. First, from 1995 to today, the city has lowered its wage-tax rates 9.27 percent and its gross-receipts tax rates 29.3 percent. Increases in the rates of these two taxes over the past 30 years have caused significant damage to the city's economy; so lowering these rates is an important step toward restoring our fiscal competitiveness.[12] Second, since 1992, and in sharp contrast to the 1980s, Philadelphia's

compensation per public employee has *declined*, in real dollar terms, at an annual rate of 0.60 percent. The city's improved labor compensation policy has allowed balanced-budget tax reductions, significantly improving the city's ability to attract firms and households. The one important fiscal weakness that has not yet been addressed is the city's continuing high budgetary obligation for support of its poor population.

The direct tax costs needed to fund poverty-related county spending in Philadelphia and in each of the four surrounding Pennsylvania counties are reported in Table 2. Poverty spending in Philadelphia is greater than comparable spending in all suburban counties combined (Table 2). Further, the direct

tax burden of poverty spending as a percent of county residents' income is roughly four to seven times higher in Philadelphia than in the suburban counties. While the residents of Bucks, Chester, Delaware, and Montgomery counties pay only 0.17 percent to 0.38 percent of their income in taxes to fund poverty services, Philadelphia residents pay taxes equal to 1.4 percent of their income to fund city-provided poverty services.

The root causes of these spending and tax disparities are, first, the geographical concentration of the region's poor and low-income elderly households within the city, a concentration due in large measure to the availability of older, lower cost housing

Poverty spending in Philadelphia is greater than comparable spending in all suburban counties combined.

within the city,[13] and second, the state of Pennsylvania's decision to make counties the primary providers and administrators of poverty-related services. Seventy percent of the five-county region's poor live in Philadelphia, and because the city is also legally a county, Philadelphia must assume primary fiscal responsibility for the unreimbursed portion of the services provided to those families. Philadelphia spends more per taxpayer for poverty services than the suburban counties, not because poverty spending is a successful election strategy or the city's middle class is particularly generous, but because, as the region's oldest and largest city, it has more poor families as residents and because it is a city-county,

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[10] See the article by Anita Summers and Lara Jakubowski.

[11] The decline in house values from the combined fiscal changes will not equal the sum of the three isolated changes because the exit of households and firms has accelerating effects in the presence of agglomeration economies. Large adverse fiscal changes will be proportionally more harmful than small changes.

[12] For the most recent analysis of the effects of city taxation on city business, see the article by Haughwout, Inman, Craig, and Luce.

[13] See the article by Edward Glaeser and Joseph Gyourko.

TABLE 2

Direct Tax Cost of Poverty Spending to County Governments in the Philadelphia Region: FY2002

(Millions of Dollars)

County (County % Poor)	Bucks (4.92%) (1)	Chester (4.88%) (2)	Delaware (8.31%) (3)	Montgomery (4.55%) (4)	Philadelphia (19.74%) (5)	Region (11.93%) (6)
PUBLIC HEALTH	$3.816m	$12.951m	$0m	$1.387m+	$76.203m	$94.357m
HUMAN SERVICES	$5.198m	$8.169m	$4.992m	$53.069m+	$67.993m	$139.421m
CORRECTIONS	$39.485m	$20.828m	$18.634m	$33.102m	$183.120m	$295.169m
EMERGENCY SERVICES	$6.658m	$1.545m	*	*	$15.564m	$23.767m
TOTAL ($ per Non-Poor) (% of Income)	$55.157m ($97.07) (0.34%)	$43.493m ($105.47) (0.32%)	$23.626m ($46.78) (0.17%)	$87.558m ($122.33) (0.38%)	$342.880m ($281.52) (1.4%)	$552.714m ($163.03) (0.60%)

The *direct tax cost to county residents of poverty spending* is defined as county poverty spending minus state and federal grants, departmental earnings, and fees paid to the county for poverty services, all reported in millions of dollars. In Delaware County, for example, all of county spending in FY 2002 for public health was supported by nontax dollars. The total dollar tax burden per nonpoor household ($ per Non-Poor) is calculated as the total poverty spending divided by the population of the county not below the poverty threshold. The percent of county income required to support the county's tax cost of poverty (% of Income) is computed as the total direct tax cost divided by total county residential income.

+ Montgomery County classifies $37.838 million for geriatric centers as spending within human services; other counties classify such services as part of the public health budget.

* In Delaware and Montgomery counties emergency services for low-income households have been classified as part of the human services budget.

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state law demands it.[14]

Regionalization. In this regard, Philadelphia stands in sharp contrast to Pittsburgh. Pittsburgh too is an older city, and the current percent of Pittsburgh's residents who fall below the poverty threshold (19 percent) is almost identical to Philadelphia's. But Pittsburgh's taxpayers share the burden of financing services for their city's poor with the suburban residents of Allegheny County. As a consequence, Pittsburgh city residents face the same tax burden on income as their suburban counterparts, only 0.23 percent.[15] This rate is significantly below the 1.4 percent burden on income now paid by Philadelphia city residents. From the perspective of regional economic growth and welfare, the Pittsburgh metropolitan area has the financing right. Large disparities in the fiscal costs of regional poverty between local jurisdictions discourage firms and households from moving to high poverty locations. If these locations are also the region's important centers of agglomeration economies — as is likely the case in Philadelphia — the firms and households that create those economies leave and economic inefficiency results. The whole region loses.

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[14] In a recent study of poverty spending by Philadelphia, I showed that the trend in city spending is unrelated to who is mayor or to the racial and ethnic composition of city council. The main determinant of the city's poverty spending is the performance of the city and national economies. That is, when economic performance improves and there are fewer families in poverty, poverty spending falls.

[15] Allegheny County's direct tax costs for the poverty-related services totaled $64.867 million in fiscal year 2002. The tax burden on a county resident not classified as poor equaled $62.48 per resident. This burden as a percent of county residential income equaled 0.23 percent of county income.

One solution — the Pittsburgh solution — is to regionalize the financing of poverty. The Pittsburgh area achieved this efficient structure for poverty financing by the luck of history. Pittsburgh's historic boundaries define a geographically small city within a geographically large county. The Philadelphia region has not been so lucky. To solve its financing inefficiency, the region must fashion a clear policy for sharing the five counties' cost of regional poverty. If the sharing is done correctly, however, everyone — city and suburban residents alike — can benefit. The best policy will entail a de facto transfer of approximately $191 million a year in poverty relief from the suburbs to the city, with the transfer tied to a required proportional reduction in the city's nonresident wage tax. If implemented, this policy is estimated to increase the combined economic wealth of city and suburban home owners by $2.1 billion, an average of about $2250 per family.

Here is how a policy to transfer funds and reduce the commuter tax rate might work. The budget data in Table 2 allow us to calculate the required suburb-to-city transfer needed to ensure uniform regional financing of regional poverty. To meet the total regional tax burden from poverty of $552.7 million for fiscal year 2002, we need a uniform regional income tax rate of 0.60 percent. Suburban residents have already made a contribution toward their regional share, but in all cases, it is below the uniform regional rate. For example, the taxpayers of Bucks County have already contributed 0.34 percent of county income (Table 2) toward the target contribution of 0.60 percent; so the reform policy would ask those residents to pay an additional 0.26 percent, or in total about $42.622 million, toward the reform policy. Similar calculations can be completed for each of the other three suburban counties.

For fiscal year 2002, the total reform contributions from the four suburban counties would equal $191 million, or about $220 per suburban family.[16] This total would then be paid to the city to lower its poverty-related tax burden. Importantly, no money need actually change hands among the five counties. Since each suburban county receives from the state poverty-related grants and reimbursement revenues greater than its required contribution for uniform regional poverty financing, the state can implement the regional policy by reallocating a portion of suburban grants to Philadelphia. There is no need for regional taxation or regional government to implement poverty-financing reform.

Transfer of Money. How the money is given to Philadelphia matters, however. Table 3 estimates what might happen to the values of typical city and suburban houses and to total house values regionwide when the reform transfer is given to the city in one of three ways. For purposes of comparison, Table 3 also reports census year 2000 house values for the current "No Reform: Status Quo" policy. Reform Policy 1 gives the poverty-relief funding to the city with "no strings attached" — that is, the city is free to allocate the funds any way it wishes.

Reform Policy 2 requires relief funding to be allocated to a uniform

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[16] Chester County residents must contribute an additional 0.18 percent of county income, or $38.389 million; Delaware County an additional 0.43 percent of county income, or $59.313 million; Montgomery County an additional 0.22 percent of county income, or $50.988 million. The total additional contributions from the four suburban counties is $191.312 million. When these funds are given to Philadelphia for poverty relief, the city's net contribution to regional poverty spending becomes $342.880m - $191.312m = $151.568m, which is 0.60 percent of city resident income. For suburban counties as a whole, $191 million equals 0.29 percent of aggregate suburban income as reported in the 2000 census.

percentage reduction in the city's wage tax rates for residents and nonresidents. The proposed level of city poverty relief will permit a 10 percent reduction in each of the two wage-tax rates.

Finally, Reform Policy 3 requires all of city poverty relief to be allocated to reducing the wage-tax rate for nonresidents. This strategy will be particularly valuable to city businesses, since they bear a large share of the burden of the nonresident wage tax as higher labor costs. Reform Policy 3 is likely to be suburban residents' favorite option too, since they benefit most from the larger and more productive city economy that this strategy encourages. Under Reform Policy 3, the nonresident wage-tax rate can be reduced 22 percent.

Reform Policy 1. Under the "no strings attached" policy, the city is free to spend its poverty relief funds as it chooses. The results reported in Table 3 assume the city allocates the new monies to additional public services. Under this assumption, Reform Policy 1 improves estimated city house values by $155 per house, but suburban house values are estimated to fall by $95. Neither effect should be considered economically significant. The total gain in wealth for regional home owners is a very modest $335 million, about 0.03 percent of their initial wealth, and all the gain goes to city residents.

Reform Policies 2 and 3. Reform Policies 2 and 3 look more promising. Under the second reform strategy, the city is required to allocate its poverty-relief funding to a 10 percent reduction in wage-tax rates for residents and nonresidents. The average city house is estimated to rise in value by $1087, or about 1.82 percent of its pre-reform value. But, again, the value of the average suburban house remains essentially unchanged, falling by $63. Overall, under Reform Policy 2, total home-owner wealth, regionwide, rises

TABLE 3

Regional Financing for Regional Poverty

POLICY REFORMS	City Average House Value (% Change from Status Quo) (1)	Suburban Average House Value (% Change from Status Quo) (2)	Regional Total House Value (% Change from Status Quo) (3)
NO REFORM: STATUS QUO	$59,700 (-)	$157,836 (-)	$111.76 billion (-)
REFORM POLICY 1: "NO STRINGS ATTACHED"	$59,855 (0.26%)	$157,741 (-0.06%)	$111.99 billion (0.03%)
REFORM POLICY 2: UNIFORM WAGE TAX CUT	$60,787 (1.82%)	$157,773 (-0.04%)	$112.21 billion (0.50%)
REFORM POLICY 3: NONRESIDENT WAGE TAX CUT	$60,960 (2.11%)	$160,614 (1.76%)	$113.74. billion (1.87%)

Because all the required data for census year 2000 are not yet available, the estimates of the post-REFORM POLICY house values reported above were computed from the simulation model of the Philadelphia economy calibrated for the census year 1990 (see Technical Appendix). For the suburban counties as a whole, the required equalizing transfer of $191 million equals 0.29 percent of current suburban income; I have therefore scaled the required suburban contribution to 0.29 percent of the 1990 suburban incomes for all policy simulations. The percentage changes in city and suburban house values are computed using this scaled transfer. The estimated percentage changes in regional house values from the 1990 simulated economy (reported in parentheses above) are then multiplied by the actual 2000 census house values (reported here under NO REFORM: STATUS QUO) to give estimates of the new, post-REFORM POLICY house values.

an estimated $558 million, or about 0.5 percent, and again the benefits are concentrated in the central city.[17]

Under Reform Policy 3, however, all home owners in the region benefit, not just those in Philadelphia. Even though suburban residents send money to the city, suburban house values rise an estimated 1.76 percent. Why? The answer lies in the more efficient regional economy that follows

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[17] The estimates in Table 3 for Reform Policies 1 and 2 are reassuringly similar to the estimates for suburban-to-city aid reported in Haughwout and Inman (2002) for their national sample. In their national sample, cities that share county functions with their suburban governments, such as Pittsburgh, have significantly higher average house values than do cities, such as Philadelphia, which pay for county functions on their own.

from Policy 3's required reduction in the wage-tax rate for nonresidents. The economic effect of the city's nonresident wage tax is to increase city firms' labor costs roughly in proportion to the tax rate. By reducing that tax rate, Reform Policy 3 lowers labor costs in the city, which encourages city businesses to expand, more city jobs, and, most important for suburban residents, more low-cost city goods and services. In dollars, the estimated net gain to a typical suburban family in our simulated regional economy will be an improvement in house values of $2780, or about $140 a year assuming a 5 percent interest rate. Under Reform Policy 3, a Philadelphia area suburban family would "invest" $220 per year in higher county taxes but then benefit by saving $360 per year through their consumption

of lower cost, city-produced goods and services. The net gain is $140 a year. Not a lot of money, perhaps, but a very nice rate of return!

Most important, regional financing of the cost of poverty is an opportunity for Philadelphia and the suburban counties to work together for the benefit of all residents of the Delaware Valley. If it is done correctly — for example, city poverty relief is exchanged for lower commuter tax rates for suburbanites — regional fiscal reform can be a true win-win, enhancing house values in the city and suburbs alike.

CONCLUSION: FISCAL COOPERATION FOR FINANCING POVERTY

There is much to recommend our region's decentralized system of

public finance. But when there are important economic interdependencies across local jurisdictions, fiscal cooperation, not fiscal competition, is required. One important economic interdependency, known as agglomeration economies, occurs within our central cities. This interdependency creates significant production efficiencies and allows valued product diversity, both of which benefit all residents of the economic region. Inefficient public finances in a city, however, can undo these economies as firms and households leave the city. On its own, Philadelphia has made significant progress toward efficient city budgeting since its 1990 fiscal crisis. Growth in city workers' compensation has been brought in line with annual rates of inflation, and the resulting savings in conjunction with productivity improvements have allowed balanced-budget reductions in the tax rates for wages and gross receipts.

The problem that remains is the city's disproportionate share of the region's responsibility for poverty spending, a burden it bears for historical and legal reasons. Regional financing of regional poverty will neutralize this threat to Philadelphia's productive efficiency, and the region as a whole will benefit. Reform can be implemented within the existing structure of state financing of county poverty spending; no new metropolitan government is necessary, nor is there any need for regionwide taxation. What will be required, however, is a commitment on the part of the city and the four suburban counties to work together. One promising option would provide city poverty relief in exchange for lower wage tax rates for nonresidents. Under this reform, city and suburban residents both gain, perhaps by as much as an additional $2.0 billion in regional house values, or $2250 per household.[18] The source of the gain is a more efficient Philadelphia economy, made possible by tax relief for suburban commuters. With city and suburban cooperation for regional poverty financing, we all win. ⓑⓡ

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[18] The total difference in Reform Policy 3 minus the status quo (Table 3): $113.74 billion - $111.76 billion = $1.98 billion, or approximately $2 billion.

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An Economic Model of Philadelphia and Its Suburbs

The predicted changes in Philadelphia and suburban house values reported in Table 1 Columns 3 and 4 and in Table 3 were computed using a general equilibrium model of household and firm location, investment, employment, and production within the Pennsylvania portion of the Philadelphia MSA (Bucks, Chester, Delaware, Montgomery, and Philadelphia counties). The model is able to predict city and suburban population, employment, firm production, government spending and taxation, worker wages, and finally home values, given an initial fiscal and demographic position for the city and its suburbs. The analysis also takes as given land available for the location of households and firms, both within the city and within the surrounding suburbs (Bucks, Chester, Delaware, and Montgomery counties).

The *household sector* consists of three broad classes of families — those whose adult head of household works and earns the region's competitive market wage, those whose head is a manager and earns an exogenous (outside the model) managerial wage set by the national market for managerial talent, and finally, those whose adult head is unemployed and classified as a family in poverty or over the age of 65. The Philadelphia region must offer all its workers and managers the same "standard of living" — what economists also call "utility" — as available elsewhere in the country. Working families can choose to live either in Philadelphia or in the suburbs. We assign managerial households to live in the suburbs, even though they may work in Philadelphia. Dependent households (those in poverty or over 65) are assigned to live in Philadelphia or the suburbs so as to match the actual MSA data. Dependent households do not move in response to fiscal or market incentives. If a household lives in Philadelphia, it receives the common level of city services and pays city taxes, either as property, wage, or sales taxation. If the family lives in the suburbs, it will receive the average level of suburban public services and it will pay the average suburban property tax rate. Managers who commute into Philadelphia are also assessed the city's nonresident wage tax, but the burden of this tax is shifted back onto the manager's city firm as an added cost of hiring a mobile managerial worker.

The *production sector* of the metropolitan economy consists of city firms that produce and sell a composite private good and suburban firms that retail the same private good but which must import that good either from city firms or from firms located outside the metropolitan area. The composite good should be viewed in the broadest sense to include all goods and services a family might purchase in the marketplace, from food to clothing to entertainment to legal services to health care. For suburban retailers, it is cheaper to import this composite private good from Philadelphia firms for two reasons. First, because of agglomeration economies, Philadelphia firms might be the low-cost producer. Second, suburban retailers are closest to Philadelphia producers so this saves on transportation costs. If the demand for the composite good by suburban residents exceeds the exports available from Philadelphia firms, the suburban retailers must import the private good from more expensive regional or national providers.

The *government sector* consists of a single central city, specified to approximate the finances of Philadelphia, and a single, all-encompassing suburban government specified to approximate the finances of an average local government plus school district in the four counties surrounding Philadelphia. Each local government produces one common public service and pays for the service using local taxes and intergovernmental transfers from state and federal governments net of payments for local debt and underfunded pensions. In addition, both the city and the suburb must meet required spending obligations for their low-income and age-dependent populations. City public services benefit city firms and city residents, while suburban public services benefit suburban retailers and suburban residents. For financing, Philadelphia uses a property tax, resident and nonresident wage taxes, and a gross receipts tax on sales by city firms within the city. The suburban government uses a local property tax. Both local governments are free to choose their own local tax rates and thus the level of local government spending on the public service.

The regional economy will be in *equilibrium* when all firms within the region earn the national competitive rate of return on invested capital, all households living in the region receive the national "standard of living" or "utility," managers earn their nationally competitive after-tax managerial salary, and the city and suburban governments choose locally balanced budgets. If firms in the Philadelphia region make more than the competitive rate of return, more firms move into the metropolitan area; if they make less, firms exit. When firms move into the region, the demand for land and labor increase, leading to a rise in land prices and worker wages. The increase in worker wages raises the standard of living for residents in the region, leading to regional population growth. Having more regional workers moderates the initial increase in wages but reinforces the initial rise in land prices. The opposite effect on wages and land prices occurs when firms leave the metropolitan area.

Firms will choose to enter the region when they are more productive and thus more profitable here than elsewhere. An important source of production efficiency will be city agglomeration economies. Efficient city firms are more profitable, attracting firms into the city. Land prices and city wages rise. Having more city firms also means more low-cost city output for export to the suburbs. Philadelphia suburbs are now more attractive. Suburban retailing output expands and this in turn increases the demand for suburban labor. Both effects raise suburban land values and suburban wages. In the end, improving central city agglomeration economies makes all residents living in the Philadelphia region richer.

A complete description of the simulation model can be found in the 2002 article by Haughwout and Inman.