Business Horizons (2018) 61, 181—190

Available online at www.sciencedirect.com

ScienceDirect

KELLEY SCHOOL OF BUSINESS
INDIANA UNIVERSITY
www.elsevier.com/locate/bushor

ACCOUNTING MATTERS

The role of a municipality's financial health in a firm's siting decision

Emanuele Padovani [a], David W. Young [b,*], Eric Scorsone [c]

[a] Associate Professor of Business Administration, University of Bologna, Forlì FC 47121, Italy
[b] Professor Emeritus, Questrom School of Business, Boston University, Boston, MA 02215, U.S.A.
[c] Associate Professor and Director, Center for Local Government Finance & Policy, Michigan State University, East Lansing, MI 48824-1039, U.S.A.

KEYWORDS
Public management;
Financial analysis;
Municipal finances;
Key financial indicators;
Facility location planning

Abstract When deciding where to locate a new facility, a firm needs to consider the financial health of the municipality where its activities will take place. Unless it sites its facility in a financially viable community, a firm is putting a substantial investment at risk. Despite the importance of this issue, many firms pay insufficient attention to a municipality's financial condition. Instead, they focus on matters such as the tax rate, the quality of the school system, or the absence of regulatory constraints. All of these features are important, but unless a municipality is financially healthy, they can evaporate before a company has attained its expected return on investment. There are 5 financial statements and 10 financial ratios that can be used to create a financial health template, which can help a firm to assess a municipality's financial strength, or its counterpart financial weakness. The template goes beyond the debt-repayment focus of credit rating agencies to matters such as financial autonomy, cash flows, and borrowing capacity. We use data from three cities—Barcelona, Dublin, and Detroit (pre- and post-bankruptcy)—to demonstrate the template's ability to facilitate comparisons among cities that are in different countries and that use different accounting systems.

1. Where should you settle?

One of the many considerations a company makes when deciding where to locate a new facility or relocate an existing one is the financial health of the city or town where its activities will take place. Indeed, even such factors as quality of life or availability of well-qualified employees can be linked indirectly to the financial health of the local government. Unless it locates its offices or manufacturing plants in a financially viable community, a firm is putting a substantial investment at risk.

Despite the importance of this issue, many firms pay insufficient attention to a local government's financial health. Instead, they focus on matters such as the tax rate, the quality of the school

* Corresponding author
E-mail addresses: emanuele.padovani@unibo.it (E. Padovani), david@davidyoung.org (D.W. Young), scorsone@anr.msu.edu (E. Scorsone)

0007-6813/$ — see front matter
https://doi.org/10.1016/j.bushor.2017.09.016

system, or the absence of regulatory constraints. All of these features are important, but unless a municipality's financial condition is healthy, they can evaporate before a company has attained its expected return on investment.

In its Best Places for Business ranking, *Forbes* identified 12 metrics including job growth, cost of doing business, living costs, income growth, educational attainment, and projected economic growth (Badenhausen, 2015). None of these measures relates directly to the financial health of the city or town, however, and only a few of them—such as projected economic growth and the cost of doing business—are even indirectly related to the municipality's financial health. In the European context, Mercer's (2016) ranking of a city's quality used 10 factors, but only a few of these—such as schools and public services—are related to the city itself, and none focuses directly on the city's financial health. Indeed, Luger and Bae (2006) conclude that typical cost-of-doing-business studies are flawed and incomplete, and therefore provide potentially misleading results.

In response to this uncertainty, some firms have responded by playing off one city against another in an effort to obtain the best deal (Levy, 1990). But the deals frequently are short-term in nature, such as tax relief or business-friendly regulations. According to Reese and Rosenfeld (2001), this is a mistaken focus; instead, they suggest an assessment of the financial strength of the local government or its counterpart: financial weakness.

Some may argue that bond-rating agencies such as Moody's perform an adequate assessment. However, rating agencies focus mainly on the ability of a municipality to repay its debt and not necessarily on its overall financial health. Indeed, rating agencies often consider lack of international standardization of accounts as a justification to lower their assessment (Carroll & Marlowe, 2009). As a result, deviation from International Public Sector Accounting Standards (IPSAS) becomes a surrogate for a more careful assessment of a municipality's financial condition.

A firm considering siting a facility in a given municipality needs to use a much broader perspective. In particular, it needs information about the municipality's ability to provide public services, which can help to attract and retain a high-quality workforce, as well as to maintain and/or upgrade its infrastructure (which can help to reduce the cost of doing business relative to other locations). A less important question is whether the municipality abides by the tenets of IPSAS.

Clearly, this broadened perspective is very different from that of a credit rating agency. Furthermore, as companies' siting decisions become increasingly global, their ability to undertake cross-border comparisons is central to the decision-making process. Few rating agencies are equipped to make international comparisons of the financial health of municipalities that use different accounting systems.

The purpose of this article is to address these broader concerns and to present a framework that a firm can use to assess the financial health of a city or town under consideration for a new facility. The framework can assist a firm to assess the financial health of a single municipality or to make comparisons among the municipalities in several different countries where different accounting systems are in use.

2. Complicating factors

Two factors can complicate an assessment of a city's financial health. First, despite efforts by the Government Accounting Standards Board (GASB) and the International Public Sector Accounting Standards Board (IPSASB) to encourage the use of accrual accounting, many cities continue to prepare their financial statements on a cash or modified-cash/modified-accrual basis. This, in itself, is a warning signal. If a city has not adopted accrual accounting, its financial health can be measured only partially. Factors such as the economic life of infrastructure assets (roads, bridges, tunnels) will be obscured, and it is likely that there will be significant unfunded (and likely unreported) liabilities for pensions and other post-retirement benefits.

Second, the literature on financial health of cities and towns includes a wide array of definitions and options, leading to a diversity of approaches used by auditors to assess the accuracy of a city's financial statements (Padovani & Scorsone, 2011). As a result, to rely on a set of audited financial statements to assess a city's financial health may be risky. Moreover, audited financial statements only verify that the city has followed appropriate accounting standards. Unanalyzed, they say nothing about the quality of a city's financial health.

3. Methodology

The CEOs and CFOs of six cities in six countries (each of which used a different accounting system) were asked to reach a consensus on how best to report on and analyze a municipality's financial health. A hybridization approach was used to build a framework that represents the commonalities among the

different accounting and financial reporting systems being used in the six cities without requiring each city to fit its data into a preexisting format (Kloha, Weissert, & Kleine, 2005; Mennicken & Miller, 2012; Mussari, 2014).[1]

The hybridization approach also incorporated the varying administrative languages (derived from English, Spanish, Italian, and German) used in the different cities, thereby facilitating the development of a framework that did not require a city to adhere to the requirements of any one international accounting standard setter (GASB, 1999; IMF, 2014; IPSASB, 2006; World Bank, 2014). This was important because most cities that a firm may consider in making a siting decision do not use these standards consistently or use only a few elements of each.

4. Financial health template

Our research resulted in the creation of a financial health template. This template comprises 5 financial statements and 10 financial ratios, all of which can be prepared relatively easily by a city interested in having a firm locate its facilities within the city's boundaries. A firm making a siting decision can use this template to help it assess the city's financial health.

To illustrate the template's use, we selected Barcelona and Dublin to have one city from northern Europe and one from southern Europe. In addition, Barcelona was generally considered a well-managed city, whereas Dublin was still recovering from the 2008 economic crisis. We added Detroit (just before it declared bankruptcy and during the 2 years of its default management) because we wanted to demonstrate how the template can be used to identify potential financial difficulties.

4.1. The 5 financial statements

The 5 financial statements that form the basis of the template are shown in Table 1. Each statement is explained below. Importantly, as will be seen in the explanations, the 5 statements are interconnected. That is, each represents a piece of the puzzle. For example:

- On the *operating performance statement* (Statement 1), line OP14 (depreciation) serves to reduce the gross creation of fixed assets (line CC1) so as to obtain the net increase of fixed assets (line CC2) of the *capital creation or consumption statement* (Part 2 of Statement 2). In addition, line OP16 (gross operating surplus) affects net lending or borrowing (line FF1) on the *financial flows statement* (Statement 3).

- On the *financial flows statement* (Statement 3), the overall financial flows balance (line FF4) is affected by the change in long-term debt (line LD2 minus LD3) in Part 2 (long-term debt) of the *debt statement* (Statement 5).

- On the *financial flows statement* (Statement 3), the net lending or borrowing amount (line FF1) is affected by both the gross operating surplus (line OP16 on Statement 1) and the capital financial capacity or need (line CF8) in Part 1 of the *capital operations statement* (Statement 2).

Statement 1, Operating performance, shows revenues and expenses generated by current operations. City governments levy taxes, earn revenues from service fees and charges, and receive grants and shared revenues from higher-level government authorities. These revenues are used to cover current operating expenses, including personnel costs and interest on debt. The remaining amount is the *gross operating surplus*.[2] After depreciation has been deducted, the result is a *net operating surplus*.[3] A positive net operating surplus means that, other things equal, funds will be available to make additional investments in the future. A negative net operating surplus means that current citizens have not fully paid for the services they received, and the difference will need to be made up by residential and business taxpayers in future years.

Statement 2, Capital operations, consists of two parts. Part 1, *capital financial flows,* shows the funds generated by (a) disposal of fixed assets, (b) capital grants from other entities, (c) other revenues designated for the acquisition of fixed

[1] The CEOs and CFOs were part of the City Economic and Financial Governance Group (CEFG Group), a project managed by the European Institute of Public Administration (EIPA). One of the authors (Padovani) was involved as a main expert. The project included the cities of Barcelona (Spain), London (U.K.), Dublin (Ireland), Milan (Italy), Vienna (Austria), and Hamburg (Germany). In 2016, the project was expanded to include Amsterdam (The Netherlands), Bordeaux (France), and Vilnius (Lithuania). For details go to www.cefg.eu

[2] Most city governments call this a gross operating balance. However, the more common term used in nonprofit organizations is surplus. The comparable term in a for-profit organization is net income.

[3] As indicated earlier, some municipalities do not account for depreciation. Indeed, many city governments do not know the book value of their fixed assets.

Table 1. The 5 financial statements

STATEMENT 1. OPERATING PERFORMANCE (OP)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	**Item**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
OP1	City Tax Revenues	876.3	915.6	982.6	365.3	365.2	366.2	684.9	671.3	667.0
OP2	City Fees & Charges Revenues	280.2	290.8	273.8	238.3	240.2	260.3	309.7	288.8	346.9
OP3=OP1+OP2	**City's Own Revenues Coming from Citizens**	**1,156.5**	**1,206.4**	**1,256.3**	**603.6**	**605.3**	**626.5**	**994.6**	**960.0**	**1,013.9**
OP4	Other City's Own Current Revenues	45.1	47.6	229.4	4.2	6.3	4.9	0.0	0.0	0.0
OP5=OP3+OP4	**City's Own Revenues Total**	**1,201.6**	**1,254.0**	**1,485.7**	**607.8**	**611.6**	**631.4**	**994.6**	**960.0**	**1,013.9**
OP6	Tax Sharing Revenues	79.9	91.9	91.7	179.7	178.9	82.2	173.3	182.5	189.8
OP7	Current Earmarked Grants from Other Governments	112.9	129.7	118.1	96.0	80.4	99.3	326.6	211.5	176.8
OP8	Current Non-Earmarked Grants from Other Governments	998.1	1,047.3	998.3	0.0	0.0	0.0			
OP9=OP5+OP6+OP7+OP8	**Current Revenues**	**2,392.4**	**2,522.9**	**2,693.8**	**883.5**	**870.9**	**812.9**	**1,494.5**	**1,354.0**	**1,380.5**
OP10	Interests and Other Costs of Debt	34.3	34.3	31.5	14.6	12.8	11.3	138.2	142.9	144.6
OP11	Personnel Expenses	352.3	427.3	368.8	403.5	398.5	386.9			
OP12	Other Current Expenditures	1,547.9	1,560.8	1,617.6	469.5	459.0	402.2	1,548.5	1,231.1	1,182.7
OP13=OP10+OP11+OP12	**Current Expenditures**	**1,934.6**	**2,022.4**	**2,017.9**	**887.5**	**870.4**	**800.4**	**1,686.7**	**1,374.0**	**1,327.2**
OP14	Depreciation	96.6	101.5	108.4	33.6	33.6	7.5	92.5	86.7	87.9
OP15=OP13+OP14	**Total Expenses**	**2,031.2**	**2,123.9**	**2,126.3**	**921.1**	**904.0**	**807.9**	**1,779.2**	**1,460.7**	**1,415.1**
OP16=OP9−OP13	**Gross Operating Surplus**	**457.8**	**500.4**	**675.8**	**(4.1)**	**0.5**	**12.5**	**(192.2)**	**(20.0)**	**53.2**
OP17=OP9−OP15	**Net Operating Surplus**	**361.2**	**399.0**	**567.4**	**(37.7)**	**(33.1)**	**5.0**	**(284.7)**	**(106.7)**	**(34.6)**

STATEMENT 2. CAPITAL OPERATIONS										
PART 1. CAPITAL FINANCIAL FLOWS (CF)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	**Item**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
CF1	Disposal of Fixed Capital	12.4	8.0	11.9	105.2	137.7	90.3			
CF2	Capital Grants from Other Entities	15.0	21.6	45.8	150.8	161.0	119.2	26.2	21.1	32.7
CF3	Other Capital Revenues	0.0	0.0	0.0	121.8	69.1	51.4			
CF4=CF1+CF2+CF3	**Capital Revenues**	**27.4**	**29.6**	**57.7**	**377.8**	**367.8**	**260.9**	**26.2**	**21.1**	**32.7**
CF5	Acquisition of Fixed Capital	401.4	348.6	529.8	87.8	199.0	22.6			
CF6	Capital Grants to Other Entities	19.6	32.2	180.1	278.3	240.3	190.9			
CF7=CF5+CF6	**Capital Expenditures**	**420.9**	**380.9**	**709.8**	**366.0**	**439.2**	**213.5**	**104.5**	**136.0**	**87.0**
CF8=CF4−CF7	**Capital Financial Capacity (+) or Need (-)**	**(393.5)**	**(351.3)**	**(652.1)**	**11.8**	**(71.4)**	**47.4**	**(78.2)**	**(114.9)**	**(54.3)**

Table 1 (*Continued*)

STATEMENT 2. CAPITAL OPERATIONS										
PART 2. CAPITAL CREATION OR CONSUMPTION (CC)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	Item	2012	2013	2014	2012	2013	2014	2012	2013	2014
CC1=CF5−CF1	Gross Creation of Fixed Assets	389.0	340.6	517.8	(17.4)	61.2	(67.7)			
CC2=CC1−OP14	Net Increase of Fixed Assets	292.4	239.2	409.4	(51.0)	27.6	(75.2)	(92.5)	(86.7)	(87.9)

STATEMENT 3. FINANCIAL FLOWS (FF)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	Item	2012	2013	2014	2012	2013	2014	2012	2013	2014
FF1=OP16+CF8	Net Lending (+) or Borrowing (-)	64.3	149.2	23.7	7.7	(70.8)	59.9	(293.4)	(135.1)	13.7
FF2	Disposal of Financial Fixed Assets	1.9	1.3	1.9	31.1	10.5	31.4			
FF3	Acquisition of Financial Fixed Assets	1.4	1.4	1.2	0.0	0.0	0.0			
FF4=FF1+FF2−FF3+LD2−LD3	Overall Financial Flows Balance (Current Year)	145.0	80.9	(114.4)	18.9	(133.1)	(25.9)	(292.1)	65.9	(841.6)

STATEMENT 4. CASH FLOWS (CS)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	Item	2012	2013	2014	2012	2013	2014	2012	2013	2014
CS1	Cash as of January 1st	289.0	408.2	555.6	85.8	123.3	146.2	94.0	94.4	295.4
CS2	Receipts from Operations	2,382.1	2,549.7	2,824.5	966.1	1,011.7	1,067.3			
CS3	Payments from Operations	2,343.2	2,334.0	2,551.2	887.6	989.9	1,115.1			
CS4=CS2−CS3	Cash Flow Generated from Operations	38.9	215.6	273.3	78.4	21.7	(47.8)	0.0	0.0	0.0
CS5	Receipts from Overdrafts and Other Cash Facilities	0.0	0.0	0.0	0.0	0.0	0.0			
CS6	Receipts from Other Financial Operations	176.6	42.8	0.0	0.0	0.0	0.0	0.3	537.3	184.4
CS7	Repayments of Ovedrafts and Other Cash Facilities	0.0	0.0	0.0	0.0	0.0	0.0			
CS8	Repayments of Other Financial Operations	96.3	111.0	138.8	0.0	0.0	0.0		336.3	1,039.7
CS9=CS5+CS6−CS7−CS8	Cash Flow Generated from Cash Facilities and Other Financial Operations	80.3	(68.2)	(138.8)	0.0	0.0	0.0	0.3	201.0	(855.3)
CS10=CS4+CS9	Total Cash Flow	119.2	147.4	134.5	78.4	21.7	(47.8)	0.3	201.0	(855.3)
CS11=CS1+CS10	Cash as of December 31st	408.2	555.6	690.0	164.2	145.0	98.4	94.4	295.4	(560.0)

STATEMENT 5. DEBT										
PART 1. PENDING PAYMENTS (PP)		BARCELONA ($000)*			DUBLIN ($000)*			DETROIT ($000)		
Code	Item	2012	2013	2014	2012	2013	2014	2012	2013	2014
PP1	Pending Payments as of January 1st	435.6	496.6	514.5	281.0	259.6	237.2			
PP2	Pending Payments from Previous Years Paid or Cancelled	423.5	484.6	495.0	877.8	679.1	779.4			

Table 1 *(Continued)*

STATEMENT 5. DEBT											
PART 1. PENDING PAYMENTS (PP)		**BARCELONA ($000)***			**DUBLIN ($000)***			**DETROIT ($000)**			
Code	**Item**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	
PP3	Pending Payments from Current Year (Year End)	484.5	502.4	657.4	856.4	656.7	826.9				
PP4=PP1−PP2+PP3	**Pending Payments as of December 31st**	**496.6**	**514.5**	**676.9**	**259.6**	**237.2**	**284.7**	0.0	0.0	0.0	
PART 2. LONG TERM DEBT (LD)											
Code	**Item**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	
LD1	**Long Term Debt as of January 1st**	**1,166.6**	**1,246.9**	**1,178.7**	**994.1**	**974.2**	**901.4**	**3,571.7**	**3,573.1**	**3,774.1**	
LD2	New Long Term Debt	176.6	42.8	0.0	47.5	19.4	10.5	404.9	537.3	184.4	
LD3	Debt Repayment (Principal)	96.3	111.0	138.8	67.4	92.1	127.7	403.5	336.3	1,039.7	
LD3A	*Debt Repayment (Principal) Excluding Extraordinary Repayments*	*96.3*	*111.0*	*138.8*	*36.0*	*38.6*	*12.3*	403.5	336.3	1,039.7	
LD4=LD1+LD2−LD3	**Debt as of December 31st**	**1,246.9**	**1,178.7**	**1,039.9**	**974.2**	**901.4**	**784.2**	**3,573.1**	**3,774.1**	**2,918.8**	

Notes: * Exchange rate as of 20 January 2017: 1 € = 1,0702 US$; not applicable where cell is blank

assets, and (d) grants from other entities. The difference between inflows and outflows is the change in the city's capital financial capacity. A positive change means that the city is accumulating capital funds that can be used for future investments. A negative change indicates that current investments are being financed by a combination of current operating revenues and loans.

Part 2, *capital creation or consumption*, shows the gross increase in fixed assets, which, when reduced by depreciation, results in the net increase in fixed assets. A negative figure means that the city's infrastructure is declining. A positive figure means that the city is growing its infrastructure so that it can provide more services for its residents.

Statement 3, Financial flows, addresses two commonly used financial figures in public sector accounting: net lending or borrowing and overall financial flows. Net lending or borrowing is computed by adding the capital financial capacity from the *capital financial flows statement* to the gross operating balance from the *operating performance statement*. A positive amount represents savings that can be used for future needs. A negative balance must be covered by loans, and therefore constitutes a burden that must be borne by future residential and business taxpayers.

Statement 4, Cash flows, shows the cash derived from or used for operating and financing activities. The increase or decrease in cash during the year is a good indicator of short-term solvency, and is a common indicator that banks and other financial institutions use to assess solvency. A decrease in cash indicates a deteriorating capacity to pay creditors in the future. In addition, the breakdown of the sources and uses of cash in this statement provides important information about the underlying causes of a change in the city's cash balance.

Statement 5, Debt, is divided into two parts. Part 1, *pending payments,* provides evidence about any difficulties the city may have had in paying its creditors, and whether the difficulty was due to the previous year's or the current year's activities. Part 2, *long-term debt,* shows the increase or decrease in debt with a term greater than one year (excluding extraordinary repayments). Growth in long-term debt may hinder the city's future budget flexibility due to the resulting debt-service obligations.

Most items in the above 5 statements are prepared using accrual accounting standards. The exceptions are those items included in the capital financial flows (where inflows and outflows are accounted for when the expenditure or liability occur) and the cash flow statement (where inflows and outflows are accounted for in terms of cash).

Each item in these statements has a specific definition that can help a city to provide information that is consistent with the template.[4] A city with a reasonably good financial management team should have no difficulty in completing these statements. By contrast, a city that is unable or unwilling to complete them may have some difficulties in managing its financial affairs in the future. If nothing else, a firm should view this inability or unwillingness as an indication of a city's potential financial management difficulties.

4.2. The 10 financial ratios

Once it has the above financial statements, a firm can use them to create a set of 10 ratios for assessing a city's financial health. The ratios are described next.

1. *Financial autonomy*. This ratio is designed to answer the question: To what extent is the city independent from other government entities? It is computed by dividing the city's earned revenues by its total revenues. The higher the ratio, the more financially autonomous the city, and therefore the less a firm would need to worry about other government entities affecting the city's financial health. All other things equal, a city with considerable financial autonomy is a good candidate for a firm's facilities, as the city does not rely on other entities to finance its ongoing operations.

2. *Overall financial flows balance*. This ratio addresses the question: How big (relatively) is the city's overall financial flow balance? It is computed by dividing the overall financial flows surplus by current revenues. If the ratio is high, future generations of taxpayers will receive benefits from old generations; if it is low, the current generation of taxpayers is paying more than it receives in services. Moreover, a city with a negative ratio may be trending toward bankruptcy. If this happens, the city might need to limit local public services, which could cause a decline in the local economy.

3. *Net lending or borrowing capacity*. This ratio helps to answer the question: How big (relatively) is the surplus or deficit generated by current and capital operations? It is similar to the second ratio, but excludes financial operations. A positive ratio indicates that the city is getting more current and capital resources than needed for current and capital expenditures. The higher the ratio, the more financial resources are transferred to future generations or used to decrease debt. By contrast, a negative ratio indicates that the city spends more than it receives, suggesting a need to either increase taxes or decrease spending to balance its budget. Either of these can have a negative impact on the economic environment. Clearly, several years of negative ratios are indicative of a city's declining financial health.

4. *Operating balance*. This ratio is computed by dividing current revenues by current expenditures and debt principal repayments (excluding extraordinary repayments). If it is greater than 100%, the city is self-financing its new capital assets. If it is below 100%, current expenditures are partially funded by capital revenues. This may create a need to increase taxes or decrease services, thereby having a potentially negative impact on the city's economic environment.

5. *Cost of debt*. This ratio shows how much the cost of debt takes from the current economic capacity (current operating revenues). It is computed by dividing the interest expense and any other debt-related expenses (but not principal payments) by current year's revenues. It is an indication of the size of the debt burden. The lower the ratio, the lower the risk that the city will need to raise taxes or curtail services in the future in order to meet its debt-service obligations.

6. *Debt repayment capacity*. This ratio is designed to answer the question: How does the city's long-term debt compare to its annual revenues? It is computed by dividing the amount of debt at the end of the year by the year's revenues. The lower the ratio, the lower the risk that the city will need to either raise taxes, reduce services, or—at the extreme—enter into bankruptcy proceedings.

7. *Debt repayment period*. This ratio addresses the question of how many years it will take to repay the existing debt at the current level of repayment. It is computed by dividing the amount of debt at the end of the year by the required principal payments (excluding extraordinary payments). A low ratio means that the city has greater flexibility to borrow in order to finance the costs associated with

[4] To obtain the definitions, go to www.cefg.eu

replacing or upgrading its infrastructure, and thus to maintain services in the future.

8. *Debt pay-down capacity*. This ratio indicates the time needed to repay the amount of debt if all of the city's current surplus funds were used. It is computed by dividing the amount of debt at the end of the year by the operating surplus. The lower the ratio, the faster the debt will be repaid, meaning that there is a greater ability to borrow for infrastructure renewal.[5]

9. *Amount of commercial debt*. This ratio attempts to answer the question: Will the city encounter difficulties in paying its creditors? It is computed by dividing the pending payments at the end of the year by the amount of current and capital expenditures. The lower the ratio, the greater the city's short-term solvency. By contrast, a high ratio indicates that taxes may need to be raised in the future or that services may need to be curtailed. Otherwise, the city is likely to experience difficulties in meeting its cash obligations.

10. *Cash facility burden*. This ratio addresses the fact that cash shortages (which require overdrafts) portend short-term solvency difficulties. It is computed by dividing receipts from overdrafts and other cash inflows by current revenues. The lower the ratio, the greater a city's short-term solvency. A high ratio indicates that the city is using short-term debt to finance its cash needs and thus may need to raise taxes or curtail services in order to meet its future debt-service obligations.

Ratios 9 and 10 must be viewed in combination. If it has a cash shortage, a municipality can either delay payments to its creditors (increasing ratio 9) or borrow money from lenders (increasing ratio 10).

5. Example of an analysis

The 10 ratios are shown in Table 2 for the three cities. As discussed above, Barcelona was considered to be in strong financial health, Dublin was recovering from financial difficulties during the crisis in the European Union, while Detroit was first approaching—and then in the midst of—bankruptcy.

[5] Clearly, this ratio is valid only when there is a positive operating balance.

Based on the information in Table 2, we can assess the financial health of the three cities. The table uses bold face type and shaded cells to highlight the varying levels of performance in the three cities, and it uses plusses and minuses to indicate positive or negative trends.

Focusing on Detroit, we can compare its pre-bankruptcy status with the financial health of the other two cities. This comparison tells several stories. First, Detroit is very similar to Dublin in terms of financial autonomy. Initially, both may seem more attractive than Barcelona, which has less financial autonomy and thus is more dependent on higher-level government authorities.

Second, however, in considering the balance ratios, Detroit shows several important weaknesses. For example, its overall financial flows balance ratio was negative 2 out of 3 years, with a worsening situation in the final year. This denotes a situation of financial distress, indicating difficulty in balancing financial outflows with inflows. By contrast, Barcelona's situation is far better overall, even though it worsened between 2012 and 2013, and even turned negative in 2014. On the other hand, Dublin improved its ratio in 2014 after a decline in 2013.

Third, Detroit's net lending and borrowing capacity showed a troubling situation at the beginning of the period but a recovery during the last 2 years. In this regard, in the post-bankruptcy year of 2014, Detroit is similar to Barcelona. Dublin provides an up-and-down pattern.

Fourth, the operating balance for Detroit represents its worst ratio both in comparative and trend terms. Even though there was a considerable reduction in current expenditures (a negative 3% between 2013 and 2014 and a negative 21% between 2012 and 2014), loan repayment grew by over 200% and thus worsened the operating balance. This is perhaps the most important symptom of the difficulty Detroit had in balancing its expenditures for operations and debt repayment with its financial inflows. By contrast, Dublin improved its situation during those years, obtaining a positive balance in 2014. Barcelona showed an increasing ability to self-finance from its positive operating surplus.

Fifth, the debt burden of Detroit was consistently higher than the other two cities as shown in the cost of debt and the debt repayment capacity ratios. In particular, 10% of Detroit's current revenues were absorbed by interest costs, which were 10 times as much as Barcelona and Dublin. In other words, 10% of Detroit's revenues could not be returned to current citizens, but were needed to pay for prior obligations. In addition, the long-term debt of

Table 2. The 10 ratios analysis of three cities

Category	Ratio	Formula (see Table 1)	Barcelona				Dublin				Detroit			
			2012	2013	2014	Trend 12-14	2012	2013	2014	Trend 12-14	2012	2013	2014	Trend 12-13	Trend 13-14
Autonomy	1. Financial Autonomy	OP5/OP9	50%	50%	55%	+	**69%**	70%	**78%**	+	67%	**71%**	73%	+	+
Balance	2. Overall Financial Flows Balance	FF4/OP9	**6%**	3%	-4%	(-)	**6%**	-9%	**11%**	+	-17%	**4%**	-53%	+	(-)
	3. Net Lending or Borrowing Capacity	FF1/OP9	**3%**	**6%**	1%	(-)	1%	-8%	**7%**	+	-17%	-9%	1%	+	+
	4. Operating Balance	OP9/(OP13+LD3A)	**118%**	**118%**	**125%**	+	96%	96%	100%	+	74%	82%	62%	(-)	+
Debt	5. Cost of Debt	OP10/OP9	**1%**	**1%**	**1%**	+	2%	**1%**	**1%**	+	9%	10%	10%	(-)	+
	6. Debt Repayment Capacity	LD4/OP9	**0.52**	**0.47**	**0.39**	+	1.10	1.04	0.96	+	2.09	2.43	1.85	(-)	+
	7. Debt Repayment Length	LD4/LD3A	12.9	**10.6**	7.5	+	27.1	23.3	63.7	(-)	**8.9**	11.2	**2.8**	(-)	+
	8. Debt Paydown Capacity	LD4/OP16	**2.7**	**2.4**	**1.5**	+	neg	1684.6	62.6	+	neg	neg	40.6	(-)	+
Short-term solvency	9. Amount of Commercial Debts	PP4/(OP13+CF7)	23%	23%	**27%**	(-)	**22%**	**19%**	30%	(-)	n/a	n/a	n/a	n/a	n/a
	10. Cash Facility Burden	CS5/OP9	0%	0%	0%	=	0%	0%	0%	=	n/a	n/a	n/a	n/a	n/a

Best (benchmark) in bold, worst highlighted in grey. "n/a": not applicable, "+": positive trend (increasing financial health), "-": negative trend (decreasing financial health), "=": stable trend.

Detroit was 1.85 times its current revenues, compared to 0.96 for Dublin and 0.39 for Barcelona.[6]

Finally, according to the debt pay-down capacity ratio, Detroit needed more than 40 years to repay its debt with its current operating balance,[7] compared to over 62 years for Dublin. Both were significantly greater than Barcelona that, with its high operating balance, would be capable of repaying its debt in 1.5 years. Even though all cities improved their debt pay-down capacity ratio, it is evident that Barcelona's debt burden is a relatively minor issue.

Since Detroit did not account for commercial debt, its financial condition could not be assessed based on ratio 9. Barcelona and Dublin have not used cash facilities (ratio 10). The absence of this sort of information for Detroit is a symptom of poor financial performance.

In general, Table 2 portrays a situation in which Detroit rather clearly shows some financial deficiencies. Indeed, its financial health is much worse than Dublin, which for many years was considered to be a city in poor financial health in a country that was one of the quasi-defaulted countries in the European Union. If a company had made this sort of assessment, it likely would not have moved its facilities to either city. By contrast, Barcelona displayed good financial health and thus would appear to have been a good place for locating a company's facilities.

6. Implications

Although all aspects of the financial health template are important, there are four ratios that stand out as particularly indicative of the possibility of future tax increases or service reductions. First, the overall financial flows balance ratio (ratio 1) provides an indication of the extent to which the current generation of taxpayers is being subsidized by previous generations or is providing subsidies to future generations. In the former case, the current generation is not paying its fair share and there is the possibility that future tax increases may be needed. In the latter case, it is not receiving services equivalent to what it is paying in taxes.

Second, the net lending or borrowing capacity ratio (ratio 3) can be used to determine if a city has a positive or negative balance between its capital resources and expenditures. A negative ratio suggests there is a need to either increase taxes or decrease spending in the future. While a negative

[6] Due to special repayment arrangements after its bankruptcy declaration, Detroit's debt repayment length decreased from 11 years to 2.8 years.

[7] According to Michigan law, Detroit was not allowed to use short-term debt (only long-term debt).

ratio in a single year may be acceptable, a persistent negative ratio is a warning signal.

Third, the operating balance ratio (ratio 4) shows whether a city is financing its new capital assets from current revenues or is relying in part on capital revenues. Again, a persistent trend is a warning signal that the city may need to either increase taxes or decrease services in the future.

Finally, a persistently low debt repayment capacity ratio (ratio 6) raises the red flag that the city will need to either raise taxes or reduce future services. At the extreme, if the city does neither, it may need to enter into bankruptcy proceedings.

More generally, these and the other ratios in the template can be of considerable assistance to a firm considering locating its facilities in a particular city or wishing to compare two or more cities. In addition, lenders, bond raters, elected officials, and citizens who wish better to understand a municipality's financial health can use the template. Use of the template is especially important when international comparisons are being made and the cities under consideration use different accounting systems. In effect, the template is independent of a city's accounting system.

Clearly, the template cannot fully measure a city's economic condition or potential. Moreover, managers and elected officials make decisions and are accountable to taxpayers on the basis of multiple perspectives, including social, political, and financial considerations. The template also fails to measure such factors as tax basis, economic wealth, education levels of the citizenry, and a variety of other intangible elements that are important to a firm's location decision.

Nevertheless, the template provides important information about a city's financial viability. It reflects a balance between a short-term perspective (financial autonomy, overall financial flow balance, net lending or borrowing capacity, operating balance, amount of commercial debt, cash facility burden) and a longer-term perspective (cost of debt, debt repayment capacity, debt repayment length, debt pay-down capacity). Both perspective are important to a firm's siting decision.

As with any analysis using ratios, the information must be used judiciously, and no single ratio should dominate the assessment. The central question is: "What story do the ratios tell about the quality of a city's financial management?" As the above discussion indicates, the template can provide a firm with some considerable insight into the financial viability of a city where it is considering locating some of its facilities.

It is important to emphasize, however, that the template cannot be considered a predictor of bankruptcy. Nevertheless, it can help a firm to assess a municipality's financial health and to compare one city to another, especially when global options are under consideration.

Clearly, the decision to locate a firm's offices or manufacturing plants in a given city is not one to be taken lightly. Promises of tax breaks or regulatory latitude can be seductive, but they pale in comparison to the city's ability to sustain its financial performance. Before a firm makes the decision to locate or relocate its facilities, it needs to have a good sense of whether the municipality under consideration is a viable entity. While the template does not include all of the important considerations, it nevertheless can be an important ingredient in a firm's siting decision.

References

Badenhausen, K. (2015, July 29). Best Places for Business 2015: Behind the numbers. *Forbes*. Available at http://www.forbes.com/sites/kurtbadenhausen/2015/07/29/best-places-for-business-2015-behind-the-numbers/#762a32a46292

Carroll, D. A., & Marlowe, J. (2009). Is there a 'GAAP gap'? A politico-economic model of municipal accounting policy. *Journal of Public Budgeting, Accounting, and Financial Management, 21*(4), 501—523.

GASB. (1999, June). *Basic financial statements—and management's discussion and analysis—For state and local governments* (GASB #34). Washington, DC: Governmental Accounting Standards Board.

IMF (2014). *Government finance statistics manual 2014*. Washington, DC: International Monetary Fund.

IPSASB (2006). *IPSAS 1 — Presentation of financial statements*. London, UK: International Public Sector Accounting Standard Board.

Kloha, P., Weissert, C. S., & Kleine, R. (2005). Developing and testing a composite model to predict local fiscal distress. *Public Administration Review, 65*(3), 313—323.

Levy, J. M. (1990). *Economic development programs for cities, counties, and towns* (2nd ed.). New York, NY: Praeger.

Luger, M. I., & Bae, B. (2006). Speaking falsehoods to power: States' misguided use of cost-of-doing-business studies in economic development policy. *The Review of Regional Studies, 36*(1), 15—43.

Mennicken, A., & Miller, P. (2012). Accounting, territorialization and power. *Foucault Studies, 13*, 4—24.

Mercer. (2016, February 23). *Western European cities top quality of living ranking*. Available at https://www.mercer.com/newsroom/2016-quality-of-living-survey.html

Mussari, R. (2014). EPSAS and the unification of public sector accounting across Europe. *Accounting Economics and Law, 4*(3), 299—312.

Padovani, E., & Scorsone, E. A. (2011). Measuring financial health of local governments: A comparative framework. In *Yearbook of Swiss administrative sciences* (pp. 93—104). Zurich, Switzerland: Swiss Society of Administrative Sciences.

Reese, L. A., & Rosenfeld, R. A. (2001). Yes, but . . . : Questioning the conventional wisdom about economic development. *Economic Development Quarterly, 15*(4), 299—312.

World Bank (2014). *Municipal finances: A handbook for local governments*. Washington, DC: The World Bank.