

COLLECTING AND ANALYZING LOCAL GOVERNMENT FINANCIAL DISCLOSURES

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Sunlight Transparency Camp Session 1

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Why?

- Compare spending priorities
- Look for waste
- **Assess credit risk**

A transparent alternative
to credit ratings based on
open data and open
source analytics

Types of Disclosure

- Budgets
- Checkbooks
- **Audited Financial Reports**
- Pension Fund Actuarial Reports
- Bond Offering Documents

*Disclosure varies across countries. Checkbooks are **not** common in the United States, but audited financial statements are produced by all but the smallest governments.*

Where are the Documents?

- Federal government collects many of the documents but does not provide an open repository
- Many documents available on individual local government web sites
- Some states have central repositories
- The Municipal Securities Rulemaking Board operates a central repository for local governments that issue bonds, but many governments do not file promptly - if at all
- In some cases, it is necessary to contact the local government to request the documents

These comments apply to the US; availability across countries varies greatly.

Parsing the Documents

- Documents are typically provided in PDF form
- Transparency activists should pressure governments to provide disclosure in machine readable formats like XBRL (eXtensible Business Reporting Language)
- Data “liberation” strategies depend upon how the PDF was created.
 - If “printed” from a computer application, desktop extraction tools like Able2Extract and Tabula work well
 - If created from scans or photos, OCR (Optical Character Recognition) software such as Abbyy Fine Reader or Tesseract may be employed
- Existing desktop and open source PDF solutions must be supplemented by manual processing; more automation is needed
- Our project relied heavily upon an India-based data entry team

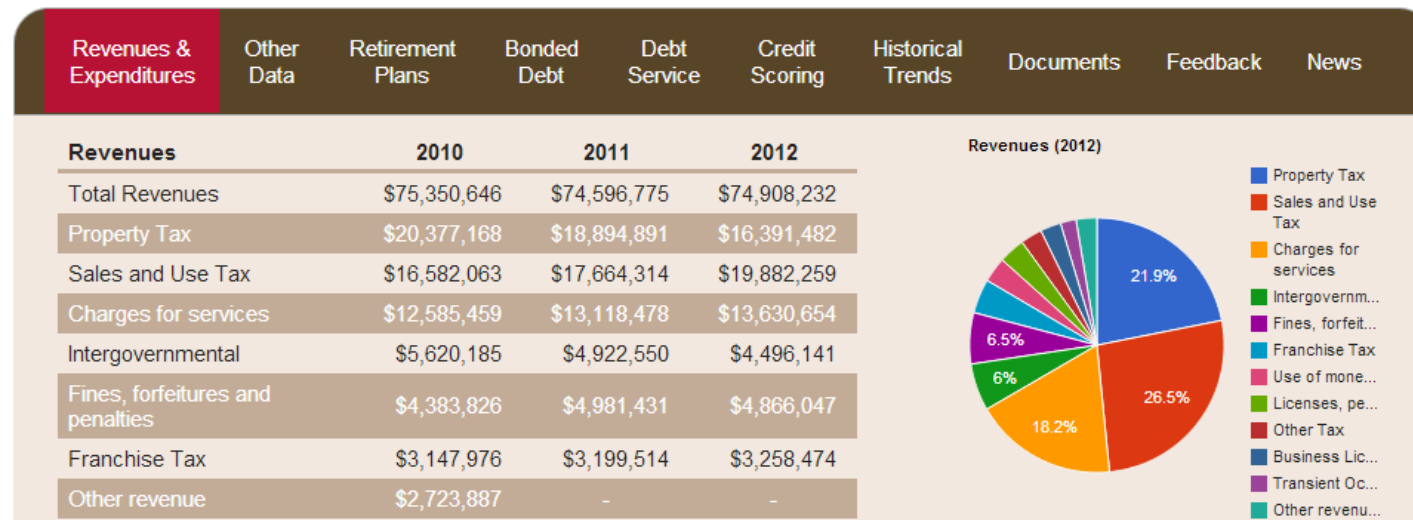
Advocacy: Moving Beyond PDFs

- Last year, I co-authored an op-ed calling for the XBRL standard to be applied to government financial disclosures.
 - XBRL is now required for all corporate disclosures – aren't cities, counties and states just as important?
- In April, Sunlight issued an open letter to the MSRB calling for it to implement standardized, machine-readable disclosure – but did not go so far as to suggest that this be a requirement for local governments
 - One concern is that compliance costs could be substantial and it would be prohibitively expensive for smaller governments to participate
 - An option could be to limit the mandate to governments above a certain size (e.g., population threshold)
 - MSRB, another regulatory body, a civil society group or even a technology startup could take the lead in organizing the disclosures and making them machine readable

Data Preparation

- Data extracted from the PDFs should be:
 - Loaded into a database
 - Quality controlled (at least on a selective basis)
 - Displayed and visualized on a web site

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Developing a Scoring Model

- Many types of scoring models are possible, but it is common to use an index of several financial metrics, such as debt/GDP or interest/revenue
- Models that output default probability estimates can be used to estimate “fair value” bond yields
- Building a default probability model involves:
 - Gathering financial statistics for a large set of entities that have defaulted and for comparable entities that have not defaulted
 - Using theory and statistical analysis to determine a subset of variables that distinguish between defaulting and non-defaulting entities
 - Using statistical software to fit a model on the selected variables. Data for current entities can then be entered into the model to calculate their default probabilities

Our Model

Revenues & Expenditures	Other Data	Retirement Plans	Bonded Debt	Debt Service	Credit Scoring	Historical Trends	Documents	Feedback	News
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 Enter or change fiscal values (shown with a white background) to calculate or recalculate the city's default probability score for each year.

Item	2010	2011	2012	2013	2014
Interest Expense		325,173	141,513	 N/A	 N/A
Pension Contributions		5,200,962	5,745,082	 N/A	 N/A
All Governmental Fund Revenue	75,350,646	74,596,775	74,908,232	 N/A	 N/A
General Fund Revenue		61,226,879	64,119,475	 N/A	 N/A
General Fund Expenditure		58,793,570	63,898,938	 N/A	 N/A
General Fund Surplus / (Deficit)		2,433,309	220,537	N/A	N/A
General Fund Balance		30,415,719	27,927,967	 N/A	 N/A
(Interest + Pension) / Revenue		7.41%	7.86%	N/A	N/A
Annual Revenue Change		-1.00%	0.42%	N/A	N/A
GF Surplus / GF Revenue		3.97%	0.34%	N/A	N/A
GF Balance / GF Expenditure		51.73%	43.71%	N/A	N/A
Default Probability		0.65%	0.79%	N/A	N/A

For more information...

- Our site: <http://www.publicsectorcredit.org/ca>
- Our study:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2258801
- Sunlight Foundation blog post:
<http://sunlightfoundation.com/blog/2013/07/05/opengov-voices-local-government-financial-transparency-scaling-it-up/>
- Guardian blog post: <http://www.theguardian.com/local-government-network/2013/aug/01/open-governance-projects-compare-council-finance>

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