

Financing Infrastructure Improvements*

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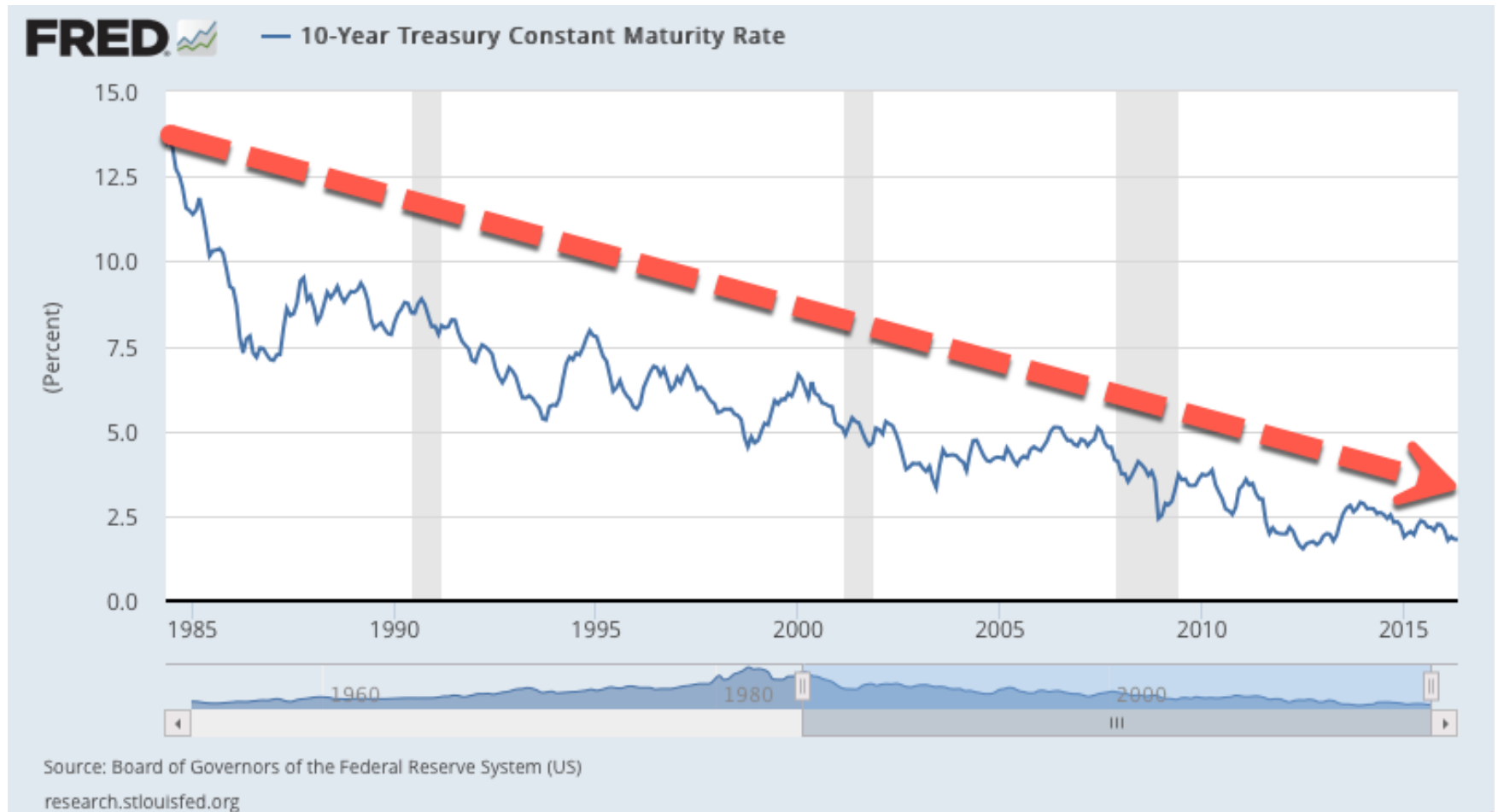
(Formerly Director of Project Finance, Chevron Energy Solutions)

* even when you're broke

3 Big Ideas

- I. Now is (probably) a good time to upgrade infrastructure
- II. Performance contracting: a solution
- III. Financing: guaranteed, paid from savings & refundings

Puzzle: low rates, low investment



Interest rates low as they have been

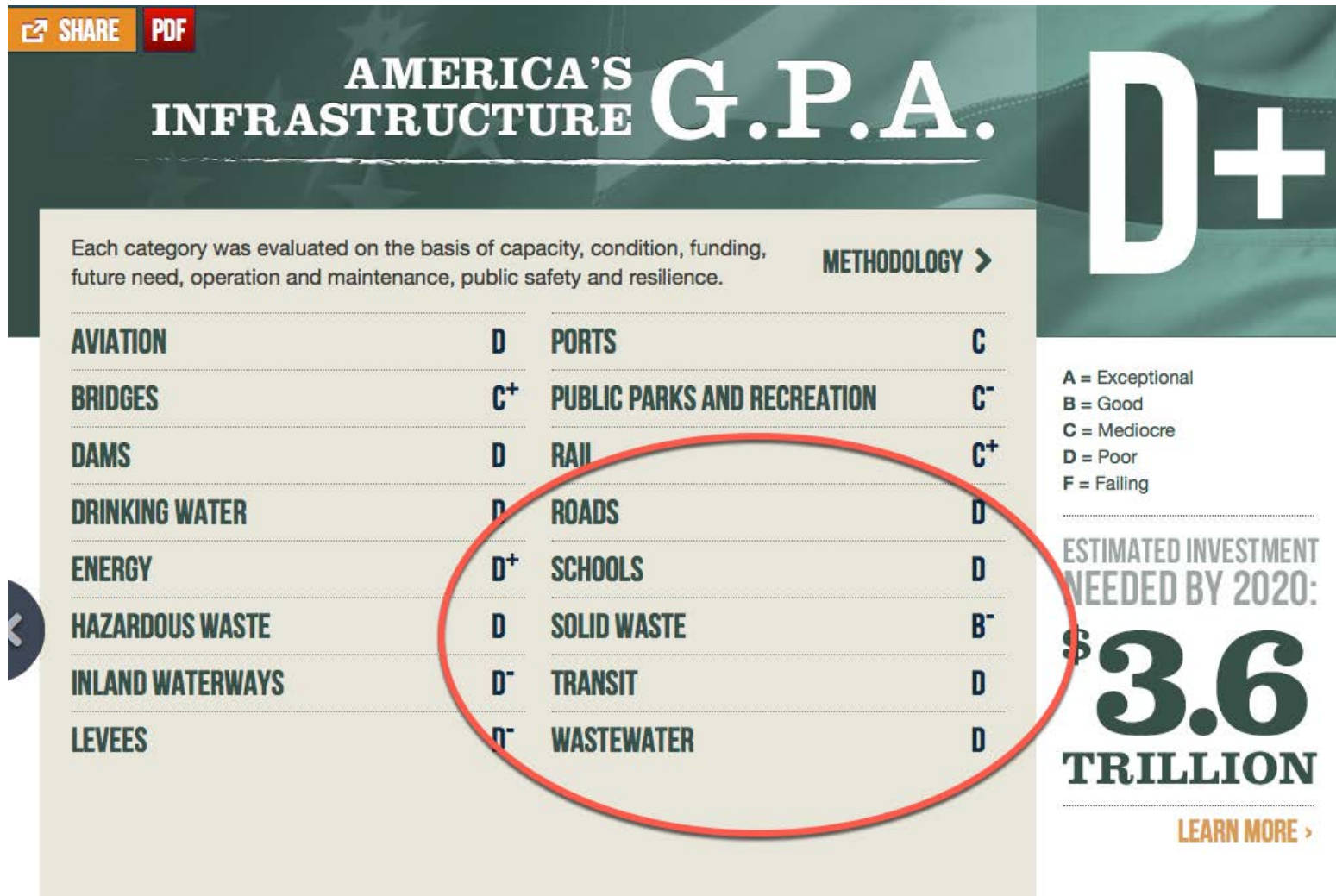
Puzzle: low rates, low investment



Low levels of investment by state and local government

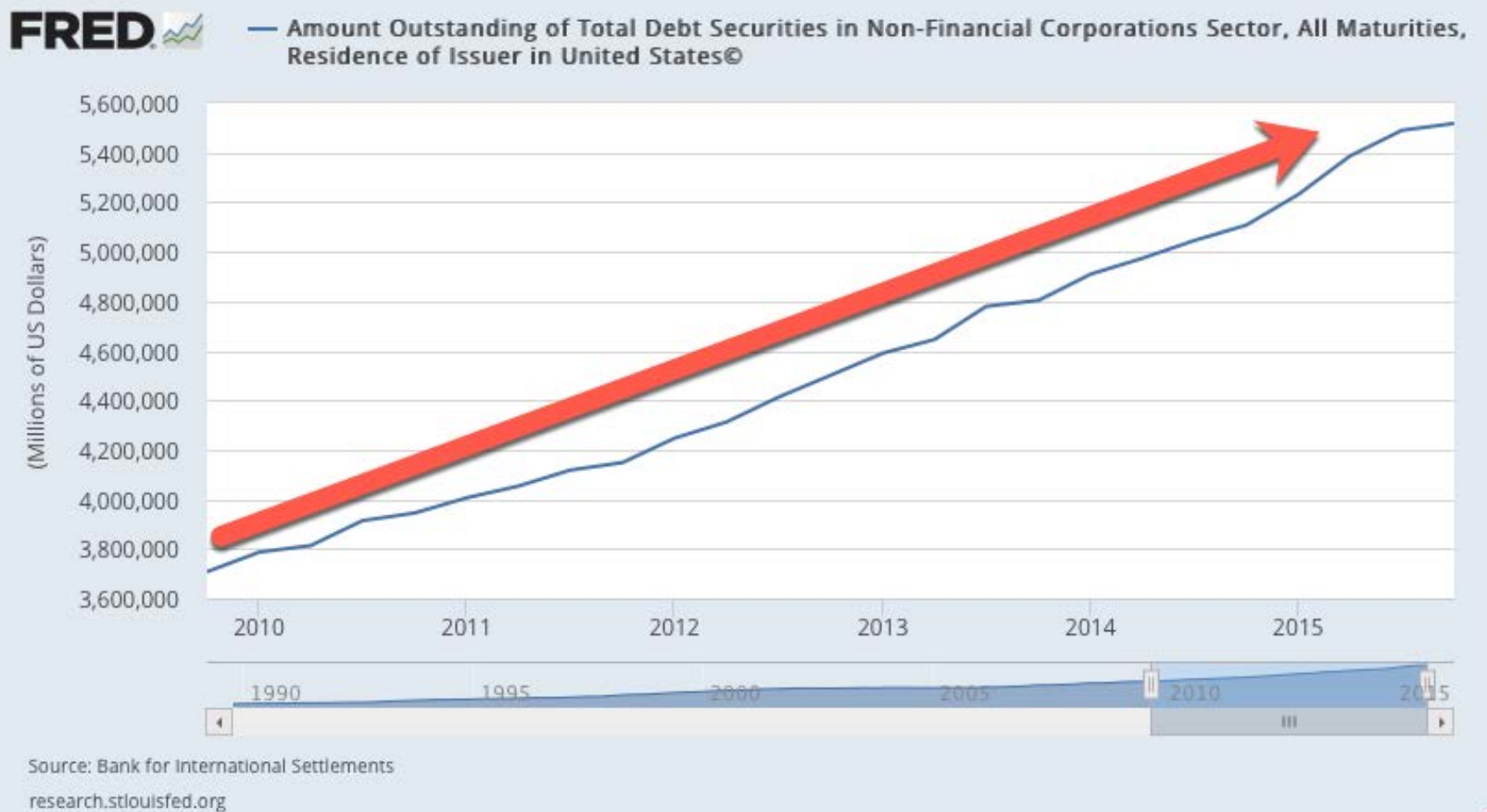
Puzzle: low rates, low investment

US infrastructure is poor; ranked 16th in world



Puzzle: low rates, low investment

Corporate sector



Puzzle: low rates, low investment

Public sector (excluding Federal)



No trend

Infrastructure multipliers

Direct: \$1 becomes...

...\$1.44 (Moody's study)

...\$3.00 (academic studies)

Best practices:

- Use local contractors
- Use local suppliers
- Training and apprenticeships

Indirect:

- More attractive to business and residents

Puzzle: low rates, low investment

Possible explanations

- Red tape: permitting and environmental, NIMBY-ism
- Procurement issues: RFQ, RFP, staff attention
- Project expense: design and engineering up front costs
- Borrowing constraints: Prop 13
- Risk: cost overruns, performance issues

Performance contracting: a solution?

Red tape: permitting and environmental

- PC: handled by company, usually upgrade existing facilities

Procurement issues: RFQ, RFP, staff attention

- PC: none required for solar or energy

Project expense: design and engineering up front costs

- PC: done by company, EPC costs in margin

Borrowing constraints: Prop 13

- PC: lease structures, paid from savings, enterprise funds

Risk: cost overruns, performance issues

- PC: lease structures, paid from savings

Overcoming the budget limits:

Program structured as paid from savings

Use of non-appropriation or abatement leases

Tap into enterprise funds

Refinancing existing debt

Not just paid from savings

Savings to general or enterprise funds

Electric measures:

- Solar power
- LED lighting
- Sensors

Water measures:

- Automated water meters
- New water meters
- Automatic leak detection

Sanger finance plan

\$1,320,000 lease revenue bonds

\$4,090,000 water revenue bonds

\$6,370,000 subordinated wastewater revenue bonds

- \$6,500,000 savings over life of project
- Not general fund obligations
- Rating agency calls, insured

Refundings

Still out there...

- 'Free' money
- Not just GOs

Best practices

- Comprehensive review of existing obligations
- Keep flexibility in obligations
- Convert OpEx to CapEx

Refundings

A million here and
a million there....

SUMMARY OF REFUNDING RESULTS

City of 2016 Refunding Certificates of Participation Private Placement

Dated Date	08/01/2016
Delivery Date	08/01/2016
Arbitrage yield	3.250311%
Escrow yield	0.506236%
Value of Negative Arbitrage	225,600.44
Bond Par Amount	12,275,000.00
True Interest Cost	3.250311%
Net Interest Cost	3.250000%
Average Coupon	3.250000%
Average Life	12.924
Par amount of refunded bonds	11,275,000.00
Average coupon of refunded bonds	5.899701%
Average life of refunded bonds	13.862
PV of prior debt to 08/01/2016 @ 3.250311%	14,674,321.98
Net PV Savings	2,401,962.73
Percentage savings of refunded bonds	21.303439%
Percentage savings of refunding bonds	19.567924%

NPV Savings
\$2,401,962⁷³

....pretty soon you're talking real money

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