

Le Plan Infrastructure de D.J. Trump

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CIRANO, 12 janvier 2017

12h15-13h30

The State of Infrastructure

- Infrastructure is a linchpin of private sector growth and competitiveness, job creation, increased wages, reduction in costs and prices for consumers, but, today, much of the US infrastructure is crumbling.
- US ranks 9th for roads investments and 12th for GCI in infrastructure. More than 60,000 bridges and most major roads are considered in poor conditions. Congestion costs the U.S. economy more than \$50 billion annually.
- Almost 2,000 water systems have shown excessive levels of lead contamination in testing over the past four years (USA Today). There are 237,600 water mains that break each year and 46 billion gallons of water are lost each day from pipe leaks.

The State of Infrastructure

- Energy infrastructure projects, worth about \$33B, were rejected by regulators or withdrawn by developers since 2012 (WSJ), leaving some communities without access to lower-cost fuel and higher-paying jobs.
- US roads and bridges face a \$808B backlog of investment spending, including \$480B critical repairs; two-thirds of roads and 143,000 bridges in “dire need” of repairs (Harvard Gazette, Jan 2017)
- “Our ports are clogged and need dredging to improve the flow of goods; railroad tracks need modernizing; airport communications technology needs updating and expansion; urban mass transit is old and inadequate; and bridges and roads urgently need repairs that have been deferred for years,” (Rosabeth Kanter, HBS)

Characteristics

- Leverage new revenues and work with financing authorities, public-private partnerships, and other prudent funding opportunities.
- Harness market forces to help attract new private infrastructure investments through a deficit-neutral system of infrastructure tax credits: user fees, and cuts in unneeded regulations that drive up costs.
- Infrastructure tax credits “as a critical supplement to existing financing programs, public-private partnerships, Build America Bonds, and other prudent funding opportunities.”

Characteristics

- The Infrastructure tax credit program is expected to generate one trillion \$ of infrastructure projects over 10 years (mainly privately financed).
- Link increases in spending to reforms that streamline approvals and improve the project delivery system.
- Employ incentive-based contracting to ensure projects are on time and on budget for a cost-effective system of roads, bridges, tunnels, airports, railroads, ports and waterways, and pipelines.

Characteristics

- Create thousands of new jobs in construction and other sectors, using American input (steel) manufacturing, to build the transportation, water, telecommunications and energy infrastructure, all of which will generate new tax revenues.
- Building new infrastructure is a critical part of any growth strategy. Every \$200B in additional infrastructure expenditures generates \$88B in wages (44%) and increases real GDP growth by more than a percentage point. Each GDP point creates 1.2M additional jobs.
- Infrastructure projects are one of the few sources of good/high paying jobs that could employ the less well educated segment of the population. At present 16.6% of the 18-34 year old prime working age population is either unemployed or in prison, the minority group statistics being even worse. Infrastructure investment could help solve this sociological tragedy.

Financing Plan

- The huge infrastructure gap is due to lack of adequate, innovative financing options.
- Projects with strong and clearly defined cash flows are readily financeable in the capital markets.
- But Many projects have somewhat less certain revenue sources (more risky).
- And others would cause high price shock to users (politically sensitive).
- Hence the need and, in an era of low interest rates, the opportunity to institute an innovative financing plan capable of preserving the lower cost and more rapid execution of a private sector solution to the provision of public infrastructure.

Financing Plan

- The difficulty with forecasting the revenue stream arises from trying to determine what the pricing, utilization rates, and operating costs will be over the decades. Therefore, an equity cushion to absorb such risk is required by lenders.
- On average, prudent leverage will be about five times equity (5/6, 1/6): one trillion dollars of infrastructure is expected to necessitate about \$167B (16.7%) in equity and \$833B in borrowing (83.3%).
- The required equity cushion will vary with the riskiness of the project.

Financing Plan

The DJT Plan:

- Assumes 4.5% to 5.0% interest rate and 9% to 10% rate of return on equity
- Proposes a tax credit equal to 82% of the equity financing. The full amount of the equity investment remains as a cushion beneath the debt, but from the equity investor point of view, 82% of the commitment is covered or reimbursed by tax credits
- The financing formula keeps the risk of the lenders at the same level and reduces the risk of the investors.
- The equity investor need not require a rate of return on the tax credited capital.
- The cost of private financing of the investment projects is reduced by 18% (4,5% and 9%, over 20 years) to 20% (5% and 10%, over 30 years).

Financing Plan

Revenue neutrality (Key condition for Congress, especially for Republicans)

- Two identifiable revenue streams for repayment during the construction phase are:
(1) the tax revenues from additional wage income (28% rate), and
(2) the tax revenues from additional contractors' profits (15% rate).
- A one trillion investment generates 440B in wages and 123B in income taxes; plus 100B in contractors' profits and 15B in corporate taxes.
- A total of 138B compared with the tax credit of 137B, with a relatively quick payback (construction phase).
- Additional taxes would follow from operation activities.

Financing Plan

The Tax Policy / Repatriation Interaction

- Repatriation of overseas retained earnings will be subject to a 10% tax rate.
- Companies could use the tax credit on infrastructure equity investment to offset their tax liability on bringing the money back.
- Suppose a company repatriate one billion \$, incurring a \$100M tax liability.
- If it makes a \$121M equity investment in an infrastructure project under the DJT plan, the 82% tax credit would cover \$100M of that investment, hence the company avoids the repatriation tax by investing in an infrastructure project.
- In the end, the company has a \$121 million infrastructure equity investment and no tax bill, while the US has more and new infrastructures.

Financing plan

- C'est en définitive comme si un projet type de risque moyen au montant de un milliard de \$ était financé à 83.3% par emprunt (\$833M à 4.5% ou 5%) et 16.7% par équité. Ce capital de \$167M sera sujet à un crédit d'impôts de 82%, ramenant la mise de fonds en équité à 3% (\$30M, au taux de rendement moyen de 9% ou 10%).
- Le Gouvernement investit donc 82% du 16.7% en équité, soit 13.7% ou \$137M sous forme de crédit d'impôt.
- Plutôt que d'exiger un rendement sur cet investissement en équité, le Gouvernement se contentera d'un remboursement par entrées fiscales directes que le projet générera: \$123M en impôts sur le revenu (28% de \$440M) et \$15M (15% de \$100M) en impôts sur les profits des entreprises, donc sur la base des revenus et profits directement tributaires de la phase construction du projet en question (en moyenne).

Quelques observations préliminaires

- Les impôts payés sur les revenus et profits générés directement par le projet servent de manière générale à payer indirectement pour l'ensemble des services publics assurés ou produits par le Gouvernement, y compris l'éducation, la santé, les infrastructures, l'État de droit, etc., consommés directement ou indirectement par les parties prenantes du projet.
- Si tel est le cas, le coût social du capital public investi en équité dans le projet (13.7% de la valeur du projet) n'est pas comptabilisé et le rendement correspondant n'est donc pas exigé. Ce coût social du capital est essentiellement le même que le taux de rendement sur l'équité privée dans le projet, donc 9% ou 10%. Voir ci-dessous.

Quelques observations préliminaires

- Le processus concurrentiel d'appel d'offres pour la construction et l'entretien des infrastructures, bien que crucial, n'est pas explicité.
- Le processus (moment et conditions) de rétrocession des infrastructures à la fin du « contrat » n'est pas explicité.
- Les liens entre le plan de financement public sous forme de crédit d'impôt et les autres modes de financement mentionnés comme complémentaires ne sont pas explicités.

Quelques observations préliminaires

- La nature de la relation contractuelle (entre autres aux chapitres du partage des responsabilités dans la gestion des risques, de la nature des garanties financières à exiger du partenaire privé, du processus d'octroi des crédits d'impôt) entre le public et le privé pour la fourniture d'infrastructures de la qualité désirée, prévue ou nécessaire, n'est pas explicité.
- L'exploitation de plusieurs types d'infrastructure devront normalement faire place à une forme de réglementation ou de surveillance de la tarification aux usagers. En général la politique de tarification ou sa réglementation fait partie du processus de soumission. Elle n'est pas explicitée.

Objections and Fallacies: Challenges

- Le plan d'infrastructure DJT reste préliminaire et incomplet. Mais de nombreuses critiques formulées à ce jour sont parfois aussi mal avisées.
- Paul Krugman (Nobel, *NY Times*): “Trump’s private investment strategy is both (i) unnecessary, given the government’s unmatched ability to borrow money on the cheap, and (ii) ripe for exploitation by the well-connected few” (as reported in the *Harvard Gazette*, January 2017).
- “[Le plan] est fondamentalement frauduleux [C'est un] exercice de capitalisme de copinage ou de connivence (crony capitalism).” (*NY Times*, November 2016)

Objections and Fallacies: Challenges

- Larry H. Summers (Harvard; Blog November 2016): “Populist economic programmes around the world ... were catastrophic for the working class in whose name they were launched. This could be the fate of the Trump programme given its design errors, implausible assumptions and reckless disregard for global economics. I have long been a strong advocate of debt-financed public investment in the context of low interest rates and a decaying US infrastructure ... Unfortunately, the plan suggests an approach based on tax credits for equity investment and total private sector participation that will not cover the most important projects, not reach many of the most important investors, and involve substantial mis-targeting of public resources.”

Objections and Fallacies: Challenges

- M. Boyer “Cinq méprises omniprésentes en évaluation des investissements publics et privés” (CIRANO 2017s-02, janvier 2017):
 1. l’utilisation du coût moyen pondéré du capital CMPC de l’entreprise pour évaluer ses investissements indépendamment des profils de risque des différents investissements;
 2. l’utilisation d’un seul taux d’actualisation arrimée au risque systématique d’un projet lorsque ce projet est tributaire de sources de risques multiples;
 3. l’utilisation de la VAN lorsque le gestionnaire a une certaine flexibilité dans la réalisation du projet, y compris la possibilité de modifier ou d’abandonner le projet en cours de réalisation;

Objections and Fallacies: Challenges

- M. Boyer “Cinq méprises omniprésentes en évaluation des investissements publics et privés” (CIRANO 2017s-02, janvier 2017):
 4. l’utilisation du coût de financement du gouvernement pour évaluer les investissements publics indépendamment des profils de risque des différents investissements;
 5. la prise en compte inadéquate du partage de risques dans les projets de partenariat privé-privé ou public-privé.

Objections and Fallacies: Challenges

- P. Krugman (NY Times, Jan 6 2017) “The Age of Fake Policy”: “Jobs saved by DJ Trumps’ well publicized interventions are in the rounding error of US statistics”
- (BLS. Dec 7 2016): “There were 1.6 million layoffs and discharges in October, essentially unchanged from September.”
- Job creation in the US: creative destruction at work

Private Sector Jobs Created and Lost, average per quarter (BED-BLS)

(Boyer, M., “Growing out of Crises and Recessions: Regulating Systemic Financial Institutions and Redefining Government Responsibilities”, January 2015.)

Period	Jobs created / qtr	Jobs lost / qtr	Net jobs / qtr
1992.III – 2007.IV	7.904 M (19.4)	7.497 M (18.4)	407 K
2008.I – 2010.I	6.619 M (6.4)	7.654 M (7.4)	(1040 K)
2010.II – 2014.I	6.979 M (12.1)	6.403 M (11.1)	576 K
2015.I – 2016.I	7.356 M (13.8)	6.822 M (12.8)	535 K

Objections and Fallacies: Challenges

- Brad Plumer (*VOX*, November 2016): “In recent years, though, some states have been experiencing with bringing private investors directly into projects, via public-private partnerships (PPPs) ... Because the private company is on the hook for the whole thing, the theory goes, it has an incentive to keep costs low and finish on time ... To date, such set-ups are relatively rare [in the US].”
- There are lots of infrastructure projects that would not qualify under the DJT Plan. The DJT Plan is “complementary” to other forms of financing.
- David Levinson (Univ. of Minnesota): “PPPs are complicated multi-decade financial arrangements, and not all states and localities are necessarily well equipped to manage these deals in the public interest.” (quoted by B. Plummer)

Objections and Fallacies: Challenges

- Linette Lopez (*Business Insider*, Nov 2016): “The things you build don't just have to be built, they have to also be economically productive. Japan went on an infrastructure building tear, spending \$6.3 trillion between 1991 and 2008. The projects the government built were just not productive enough to bring the country out of its slump, and they eventually just ended up adding to the albatross of debt hanging around Japan's neck. Japan has immaculate roads and tons of airports no one needs or uses, but it remains in the throes of its economic downturn.”

Objections and Fallacies: Challenges

- Joel Moser (*Forbes*, November 2016): “*There are good and bad ways to privatize assets and good and bad deals for the public.

*In fact, the vast majority of civil infrastructure projects are planned, designed, financed and built by the private sector for profit. Private design firms scope and lay out projects, private engineering and architectural firms design them, investment bankers and Wall Street funds and institutions underwrite and buy the bonds to finance them and private contractors build them.

*The UK Private Finance Initiative--the “PFI”--the global best practice standard for the development of large and complex infrastructure projects is a model that includes an element of direct private sector investment to at least try to keep the private parties’ interests aligned with the public and engaged beyond the completion date. This is the best practice standard everywhere but in the United States.

Objections and Fallacies: Challenges

- Joel Moser (*Forbes*, November 2016): “*There are good and bad ways to privatize assets and good and bad deals for the public.
*That is because the United States finances infrastructure at the State and local level with tax subsidized municipal bonds granting an economic incentive provided, generally, that there is no private investment, thus preventing the very development tool [PFI-PPP] used around the world.”
- Rep. Peter DeFazio (D-Ore.), ranking member on the Transportation and Infrastructure Committee: “Public-private partnerships (PPPs) only work on projects that create revenues. The vast majority of the national highway system, and our bridge problems and all our transit problems, do not generate revenues. It will not help them.” (from Melanie Zanon, *The Hill*, November 2016)

Conditions of Success: Challenges

- L'intérêt d'une formule PPP réside dans:
 - Le partage et la gestion plus efficaces des risques réels et la gestion plus rigoureuse des coûts et échéanciers qu'elle peut permettre grâce à une plus forte intensité des incitations tant pour le partenaire public que pour le partenaire privé
 - La mise à contribution plus transparente des meilleures compétences et pratiques
 - Les engagements de performance plus crédibles des partenaires grâce aux clauses contractuelles explicites relatives aux critères de performance et au maintien de l'ouvrage sur le long terme, et
 - Les clauses de garanties financières devant être fournies par le partenaire privé assurant un monitoring plus direct et efficace de performance.

Cet intérêt ne réside pas dans la simple identité, publique ou privée, des partenaires.

Conditions of Success: Challenges

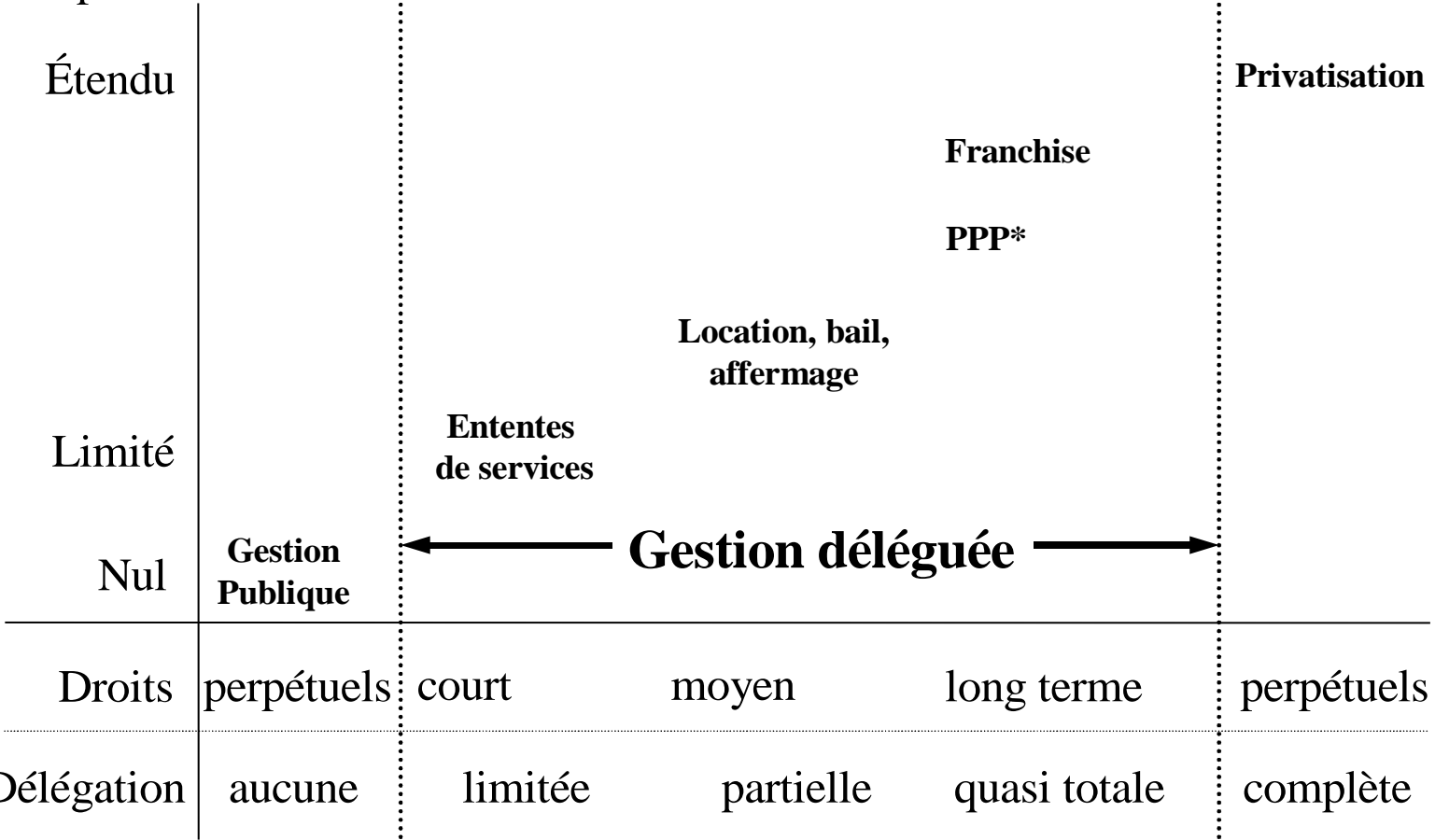
- Partage explicite et transparent des rôles du public et du privé dans la fourniture des services publics et dans le développement et le maintien des infrastructures. Boyer (2009); Boyer et Elgrably, *Réinventer le Québec: Douze chantiers à entreprendre*, Éditions Stanké, mars 2014, 176 pages
- Les mécanismes incitatifs incarnés dans les relations contractuelles entre le public et le privé forcent les deux partenaires à tenir leurs engagements: équilibre de Nash vertueux.
- La responsabilité du partenaire privé (plutôt que du partenaire public) quant au remboursement des prêteurs est un élément essentiel du processus efficace de monitoring du partenaire privé.
- Une situation similaire dans le partage de responsabilité en matière de désastres industriels et environnementaux : Boyer et Laffont (1997), Boyer et Porrini (2004)

Conditions of Success: Challenges

- L'affirmation de bonnes intentions (lois, planification publique sur 5, 10 ou 15 ans) n'est pas une garantie de résultats.
- À défaut d'une structure de responsabilité contractuelle incitative à la performance, l'histoire ne peut que se répéter: après une période potentiellement « rose », le déficit d'entretien et de maintien des infrastructures ne peut que réapparaître.
- There is no free lunch or free money! Competition is key.
 - *D. Ivory, B. Protesse, G. Palmer, “In American Towns, Private equity profits from “public works”, *NY Times*, December 2016;
 - *M. Boyer et S. Garcia “Régulation et mode de gestion : une étude économétrique sur les prix et la performance dans le secteur de l'eau potable”, *Annales d'économie et de statistique* 90, avril-juin 2008 (janvier 2010), 35-74.

M. Boyer, M. Patry, P. Tremblay, « La gestion déléguée de l'eau : les enjeux », *CIRANO 1999RP-11*;
 voir aussi “La gestion déléguée de l'eau : les options”, *CIRANO 2001RP-10*;
 “La gestion déléguée de l'eau : gouvernance et rôle des différents intervenants”, *CIRANO 2001RP-11*.

Niveau
de risque pour
l'entreprise



Conditions of Success: Challenges

- Finance Montréal (2016) et CIRANO (2014) sur l'importance des modes non traditionnels de financement et de réalisation des projets d'infrastructure et sur les avantages et inconvénients des PPP.
- Public Infrastructure Banks (Chicago): could *remove some of the politics, *attract a pool of capital for loan guarantees and equity financing, *channel various public grants
- But the experience of Fannie Mae (FNMA) and Freddie Mac (FHLMC), which ended up being captured by political interests, and their role in the financial crisis of 2007-2009, must not be forgotten. See Boyer (2015).
- Infrastructure Banks may be public or private (Private Equity Infrastructure Funds). When public, such banks must be subject to proper financing and investment rules.
- CDPQ Infra: *agir à titre de maître d'œuvre de certains projets d'infrastructures en assumant la responsabilité pour les phases de planification, de financement, de réalisation et d'exploitation; *générer des rendements commerciaux pour la Caisse et ses partenaires; *limiter l'impact financier des projets sur le bilan du gouvernement.

Canada/Québec: Défis

- Le Canada (et le Québec) devrait se positionner pour participer pleinement au programme d'investissements en infrastructure de DJT pour mettre à profit l'expérience acquise en exportant les compétences ainsi développées
- SQI-PPP (A30, A25, CHUM, CSUM, OSM), SQI autres, CDPQ Infra (transport collectif)
- Vancouver SkyTrain and Canada Line, +++
- Ontario Alternative Financing and Procurement (AFP) model: “IO has a track record of delivering projects on-budget and on-time while meeting high standards for design, quality, and health and safety. The Alternative Financing and Procurement (AFP) model leverages partnerships with the private sector to expand, modernize and replace Ontario’s aging infrastructure. The AFP model drives innovation and transfers risks in order to protect the public interest.”
*Not 100% foolproof though, as shown by Boyer, Gravel, Mokbel (2013) et Boyer (2017).

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