

2019 Investment Seminar

October 27, 2019

Toronto, Canada



Session 1A: Low Interest Rates - Better to Get Used to Them Despite Their Bitterness

[SOA Antitrust Compliance Guidelines](#)

[SOA Presentation Disclaimer](#)

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BENOÎT DUROCHER

Low Interest Rates - Better Get Used to Them Despite their Bitterness

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SOCIETY OF ACTUARIES

Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

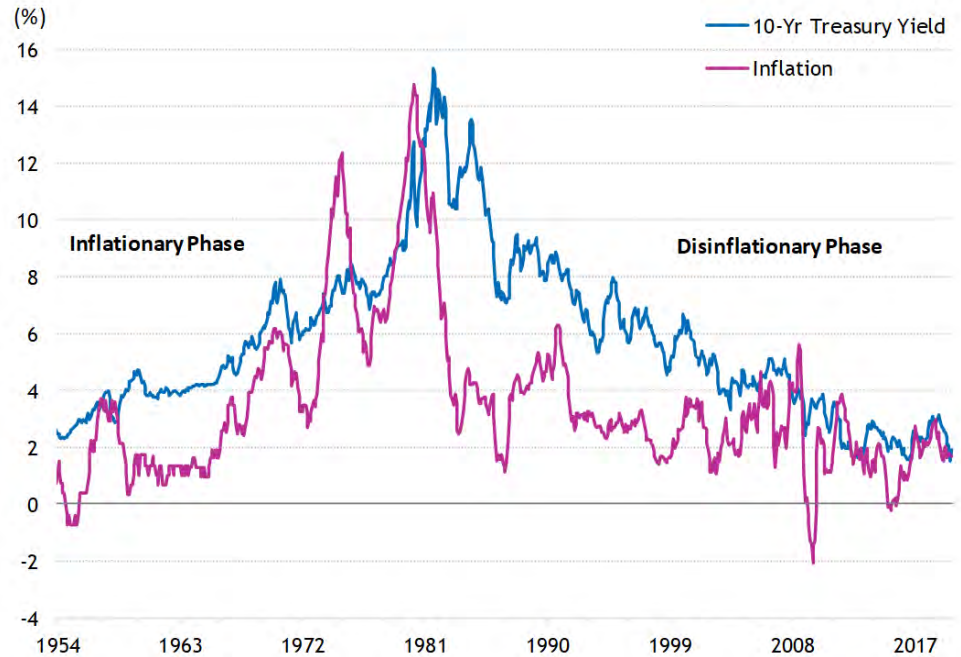
Initial Considerations

- What is an interest rate?
 - Price of capital that clears the market at equilibrium between supply and demand for capital (available savings)
- The interest rate needs to satisfy borrowers and savers
 - Borrowers want it low enough to profitably finance expenditures
 - Savers/lenders want it high enough to compensate for the foregoing of capital and to protect against inflation erosion

All Interest Rates Are Not Equal

- Short term interest rates
 - Mostly determined by monetary policy
 - Impact on economic growth
- Long term interest rates
 - Determined partly by budgetary policy
 - A reflection of economic conditions
- An assessment of default risk is common to both

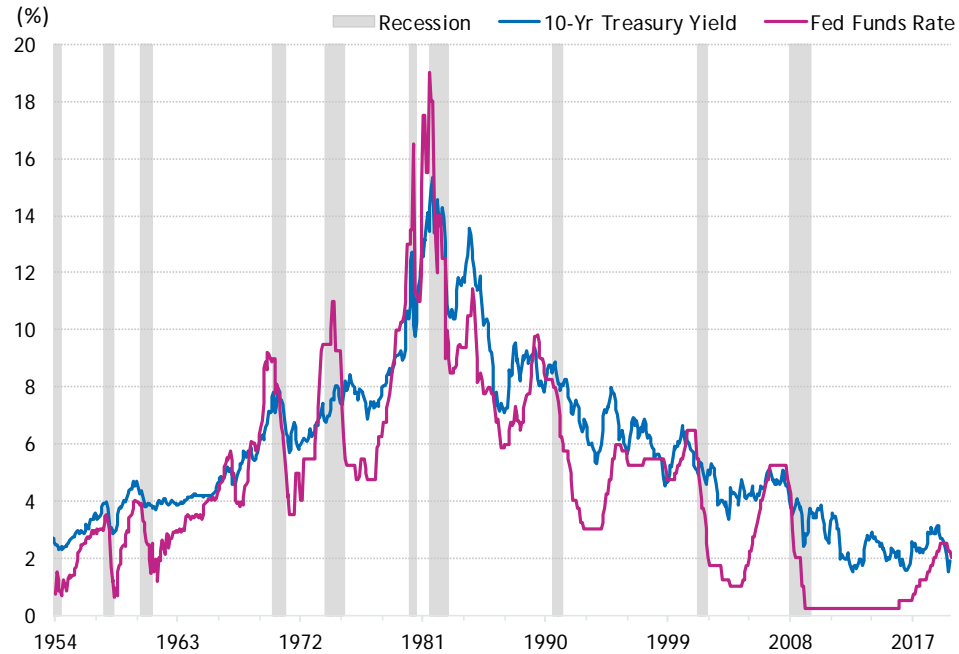
A Historical Perspective of Long Term Rates



As at September 30 2019

Sources : Refinitiv, Addenda Capital

A Historical Perspective of Short and Long Term Rates

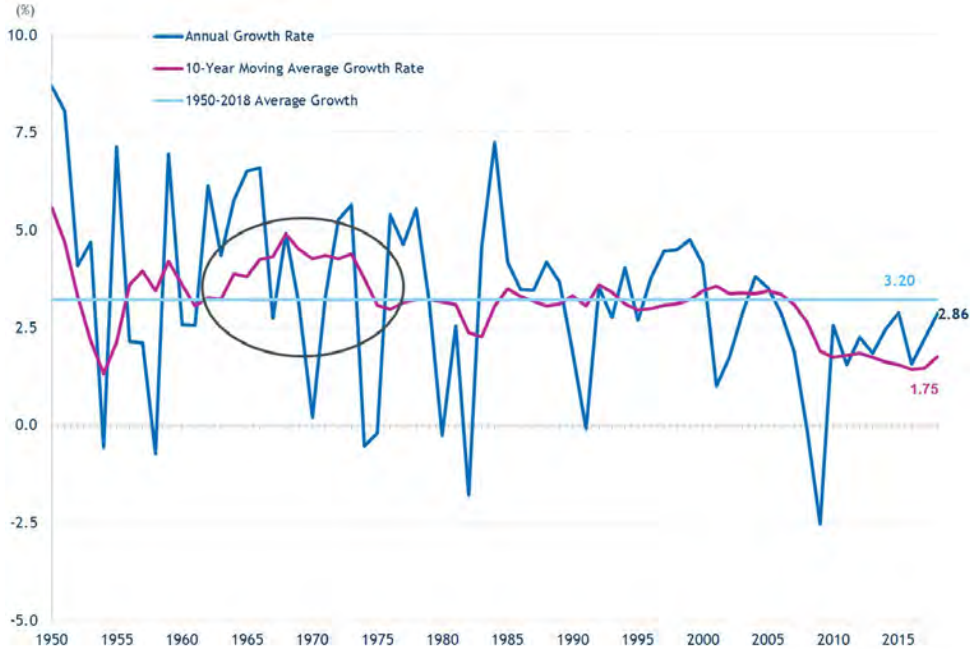


As at September 30 2019

Sources : Refinitiv, Addenda Capital

The Influence of Structurally Slower Growth

United States GDP



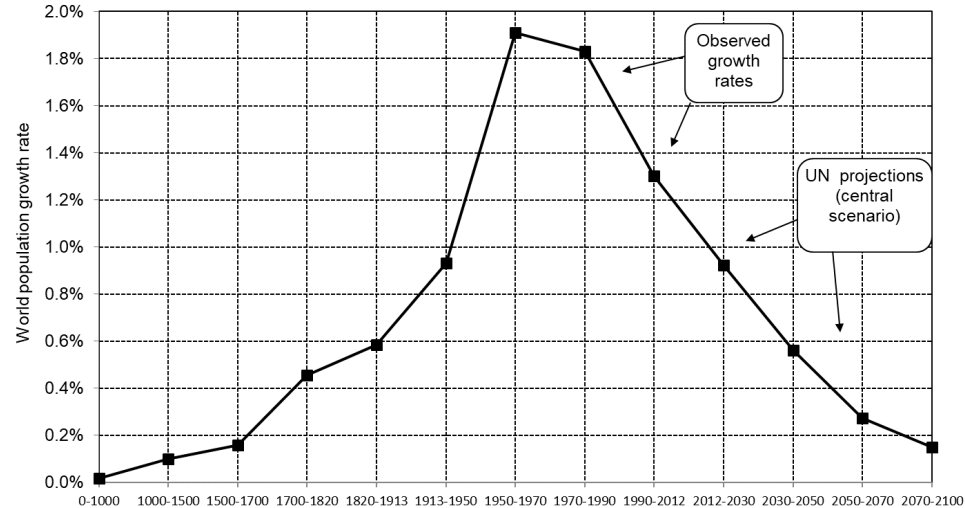
Source: BEA, Addenda Capital

Prospects for Future Growth

- Economic growth is the product of:
 - Population growth
 - Productivity growth

Prospects for Population Growth

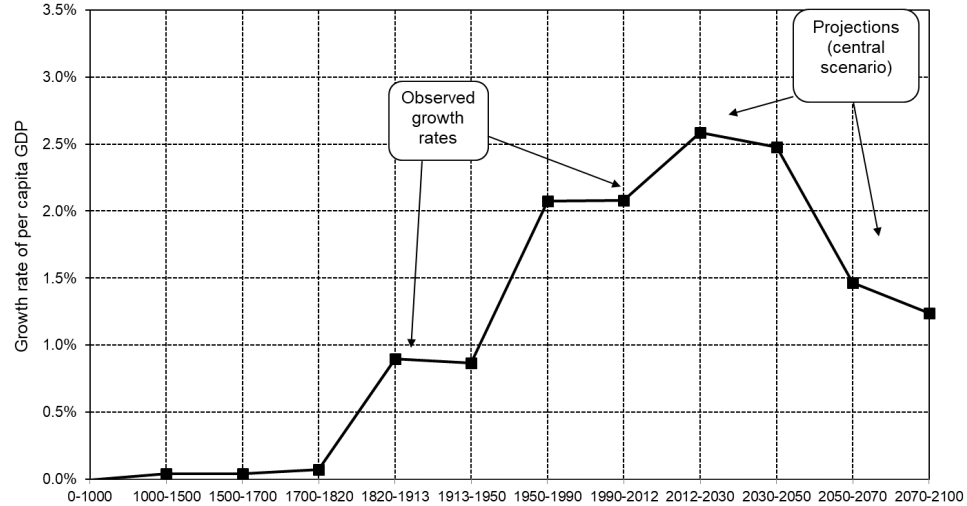
Figure 2.2. The growth rate of world population
from Antiquity to 2100



The growth rate of world population was above 1% per year from 1950 to 2012 and should return toward 0% by the end of the 21st century. Sources and series: see piketty.pse.ens.fr/capital21c.

Prospects for Productivity Growth

Figure 2.4. The growth rate of world per capita output since Antiquity until 2100

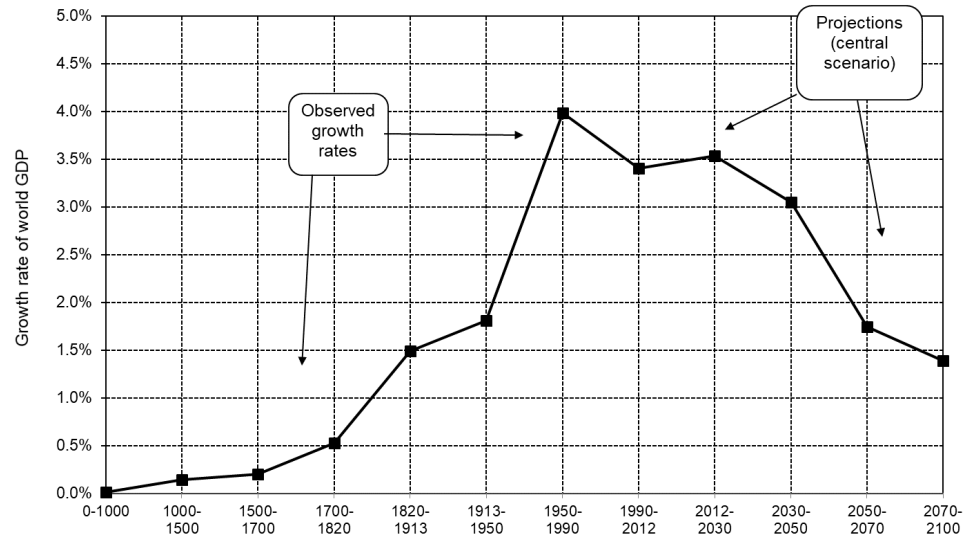


The growth rate of per capita output surpassed 2% from 1950 to 2012. If the convergence process goes on, it will surpass 2,5% from 2012 to 2050, and then will drop below 1,5%.

Sources and series : see piketty.pse.ens.fr/capital21c.

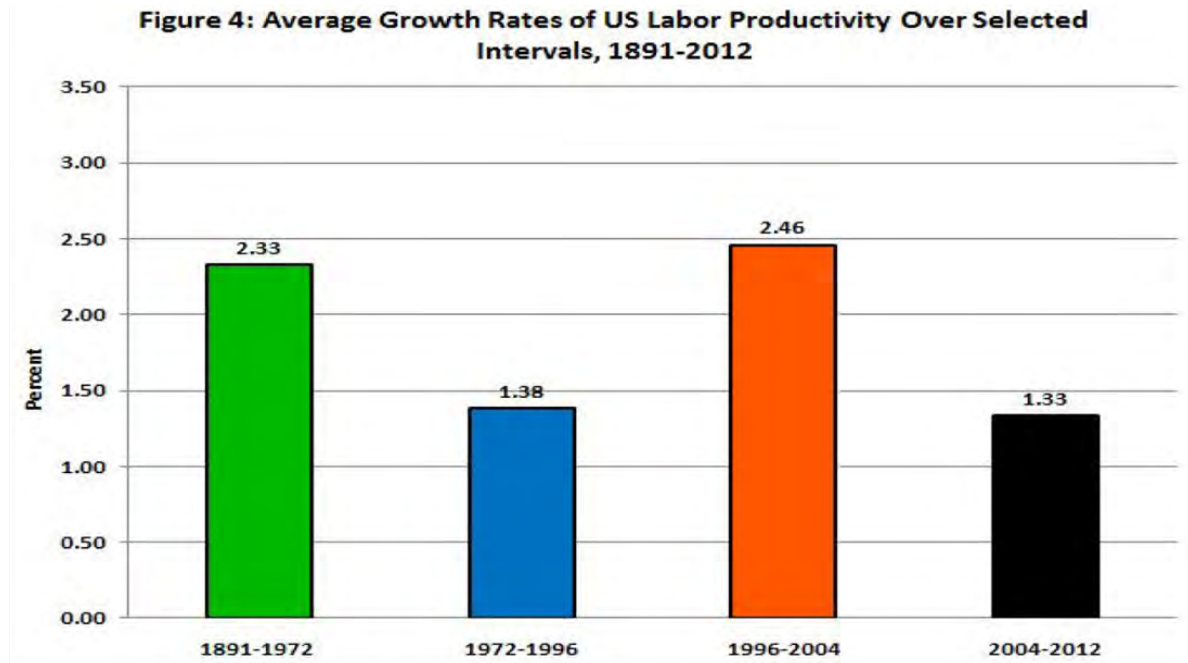
Prospects for Growth

Figure 2.5. The growth rate of world output from Antiquity until 2100



The growth rate of world output surpassed 4% from 1950 to 1990. If the convergence process goes on it will drop below 2% by 2050. Sources and series: see piketty.pse.ens.fr/capital21c.

Prospects for Productivity in the United States


















Source: Robert J. Gordon, Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds, NBER Working Paper 18315, p. 13 (<http://www.nber.org/papers/w18315>)

The Six Headwinds to Growth for the US Economy

- The end of the demographic dividend
- Rising inequality
- Factor price equalization – interaction between globalization and the Internet
- Access to education and leveling of graduation rates
- Environmental regulations
- Household and government debt

Robert J. Gordon, *Ibid.*

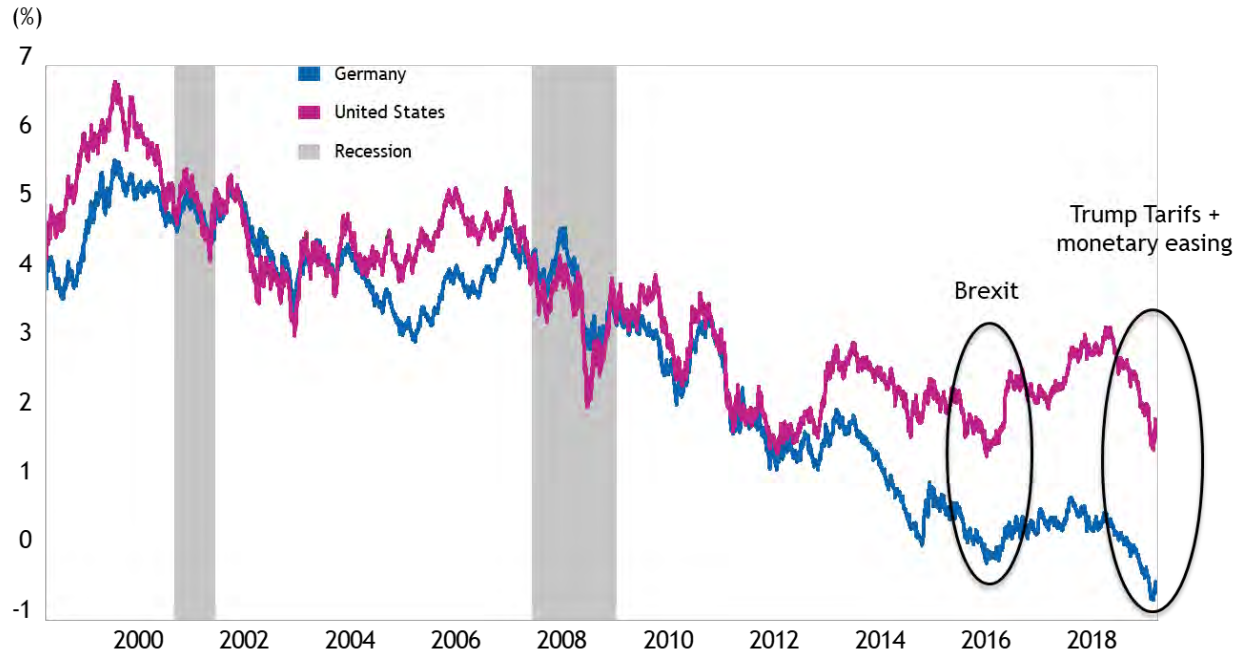
More than \$13 Billion in Negative Yielding Debt*

	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	15-Year	30-Year
 Switzerland	-0.86	-0.85	-0.84	-0.77	-0.71	-0.62	-0.39	-0.20
 Japan	-0.27	-0.28	-0.28	-0.30	-0.30	-0.17	0.06	0.40
 Germany	-0.61	-0.69	-0.73	-0.66	-0.60	-0.42	-0.28	0.115
 Netherlands	-0.64*	-0.67	-0.70	-0.59	-0.48	-0.29	-0.01*	0.11
 Finland	-0.53	-0.60	-0.61	-0.53	-0.38	-0.17	0.05	0.35
 Austria	-0.53	-0.61	-0.62	-0.48	-0.35	-0.18	0.08	0.43
 Belgium	-0.62*	-0.62	-0.62	-0.46	-0.35	-0.13	0.14	0.70
 France	-0.59	-0.63	-0.62	-0.45	-0.36	-0.12	0.15	0.69
 Sweden	-0.51*	-0.53	-0.56*	-0.53	-0.41*	-0.17	0.00	0.51*
 Denmark	-0.78*	-0.74	-0.69*	-0.62	-0.53*	-0.40	-0.26*	0.01*
 Ireland	-0.53*	-0.52*	-0.50	-0.39*	-0.21	0.02	0.33	0.87
 Italy	-0.22	-0.25	-0.03	0.29	0.62	0.94	1.49	2.05
 Spain	-0.47	-0.46	-0.44	-0.23	-0.01	0.23	0.64	1.11
 United States	1.64	1.63	1.61	1.60	1.68	1.77	1.89*	2.24
 Canada	1.74	1.69	1.64	1.59	1.58	1.57	1.61*	1.68

As at October 15, 2019

*Values derived with cubic spline analyses
Sources : Bloomberg, Addenda Capital

US 10-Year Treasury Bond: A Global Bond



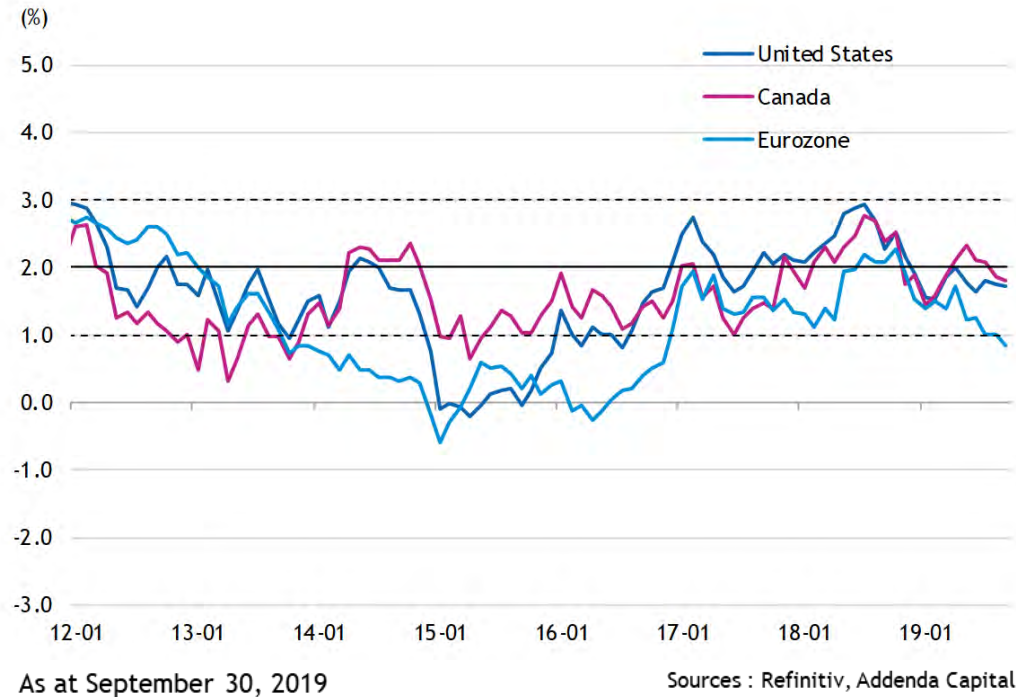
As at September 30, 2019

Sources: Refinitiv, Addenda Capital

Wrong Diagnosis, Wrong Prescription

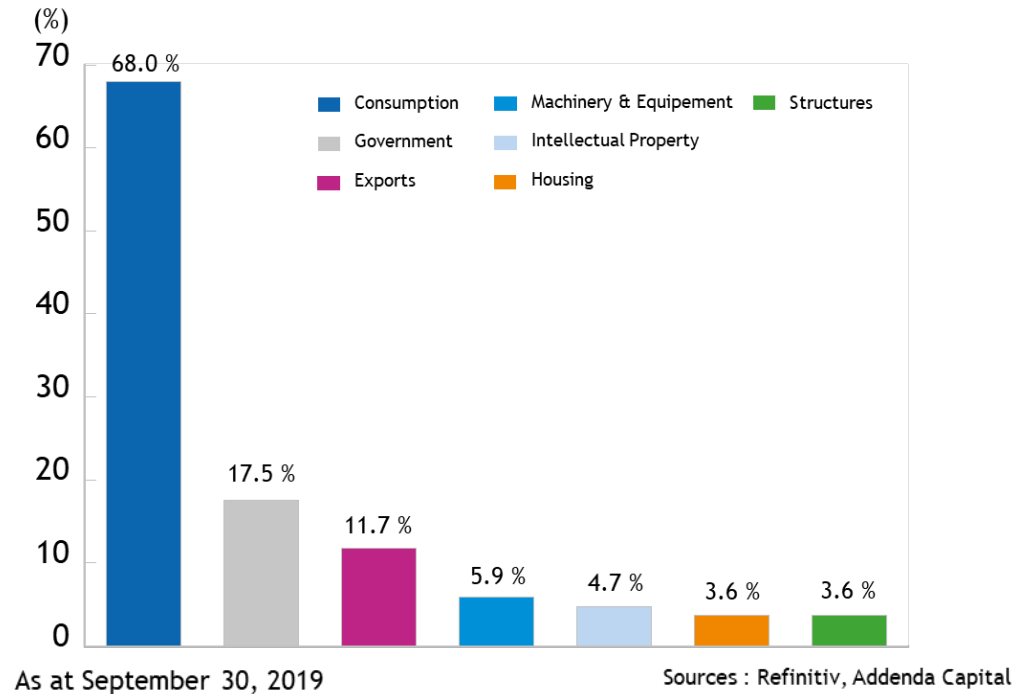
- Monetary policy
 - Designed to address cyclical issues
 - Rates brought to 0 to pull the economy out of the Great Recession
 - The Fed is being bullied by markets to ease policy further:
 - Yet the economy is running against capacity limits
 - Not designed to address structural or geopolitical issues
 - eg. trade concerns, Brexit
- Unduly low rates lead to the mispricing of assets
 - Could lead to asset price bubbles

Inflation Close to Target in Canada and the United States



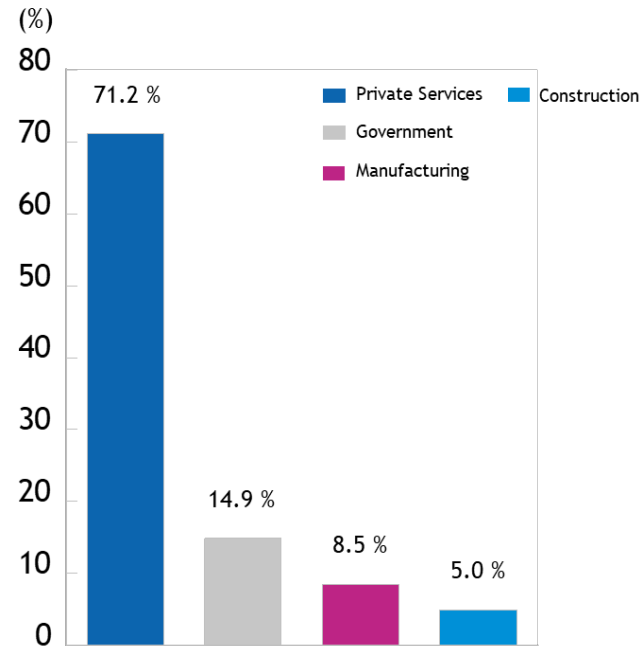
Worried About Trade in Goods? Really?

US GDP Weights



Worried About Trade in Goods? Really?

US Sectoral Employment



As at September 30, 2019

Sources : Refinitiv, Addenda Capital

What to Expect

- In the short run
 - Inflation likely to emerge leading to higher monetary policy rates
 - Long term rates to rise somewhat as central banks tolerate higher inflation
 - Impediments to trade could support higher prices
- In the longer term
 - Trends likely to result in a lower rate structure
 - At least compared to the prime economic growth period
 - And until retirees start dissaving in earnest
 - Slower growth, a shrinking labour force and ageing population will push rates higher
 - Demand for matching purposes will probably prevent rates from rising too much



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