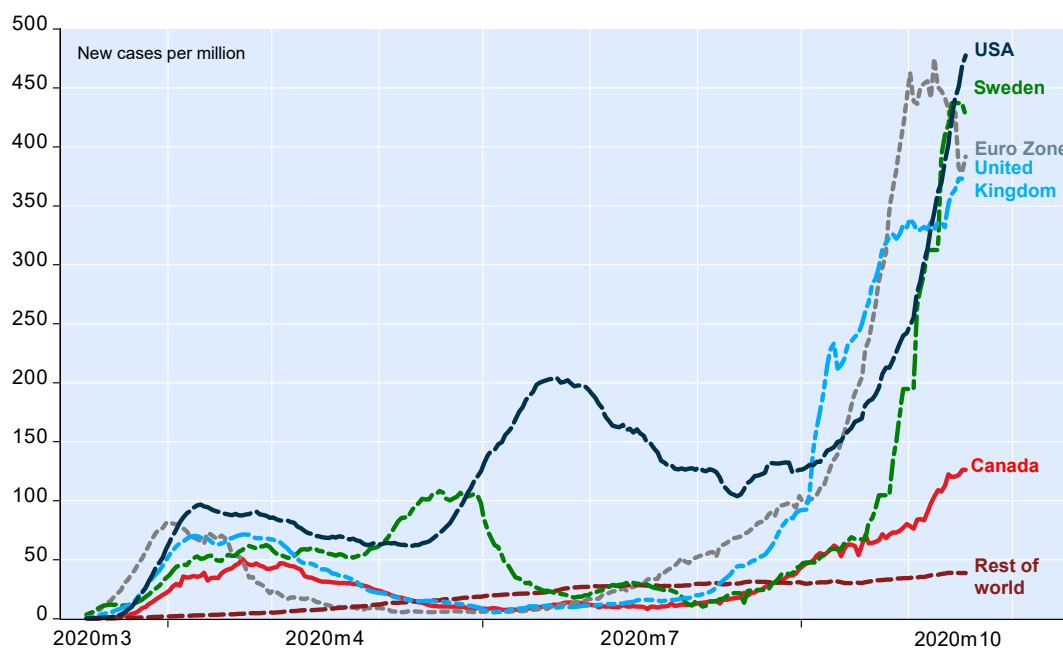


November 19, 2020

This monitor provides daily updates on the evolution of COVID-19 in selected countries using data available as of 8:00am EDT (graphs 1-10). We also compare the death rate of COVID-19 with that of the Spanish flu (graph 11), monitor the reopening of economies (graphs 12-13) and offer an update of our financial conditions index for Canada (graph 14).

1. World: Evolution of the pandemic

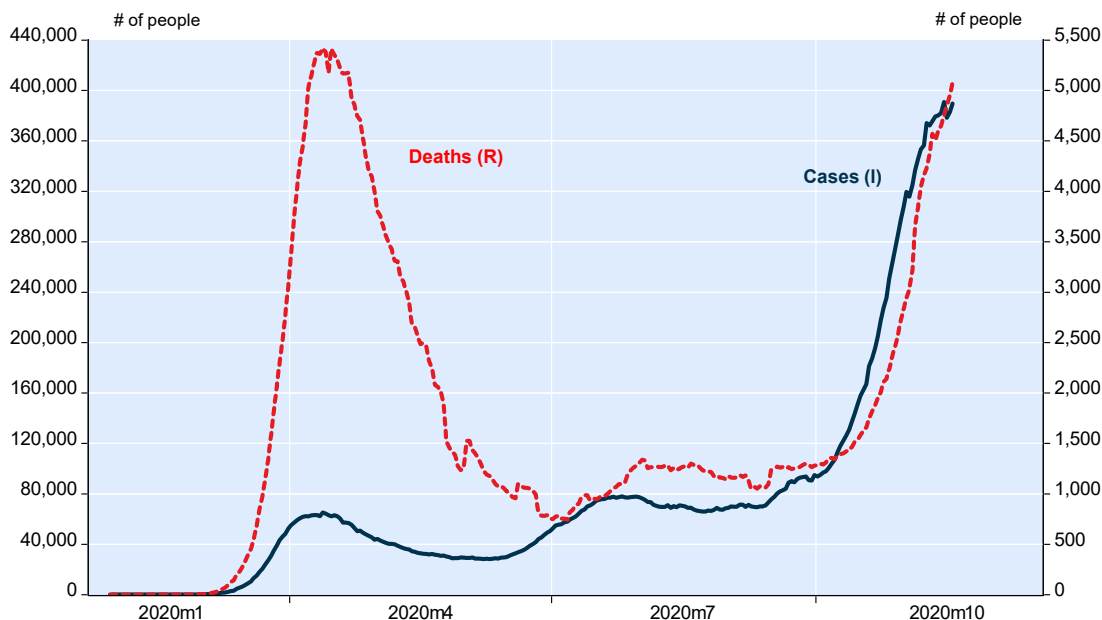
Daily new cases per million population by region, 7-day moving average



NBF Economics and Strategy (data via Johns Hopkins CSSE)

2. Developed countries: Perspective on COVID-19 cases and deaths

New cases and new deaths in Europe and North America, 7-day moving average



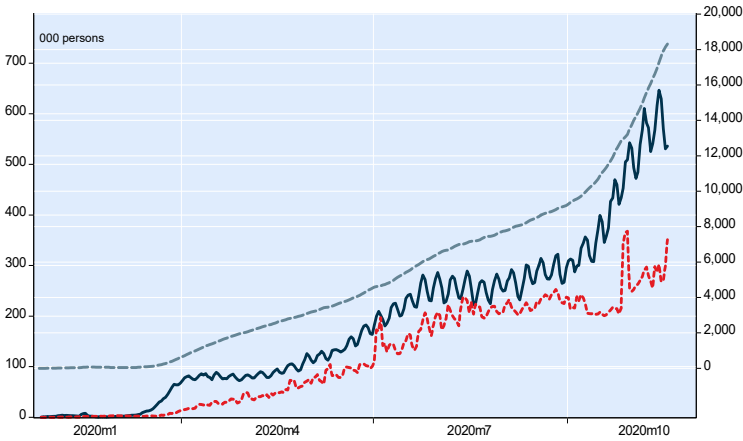
NBF Economics and Strategy (data via Johns Hopkins CSSE)

3. Evolution of the COVID-19 pandemic, selected countries

Daily change in new cases and in total active cases, 3 day moving average (data via Johns Hopkins CSSE)

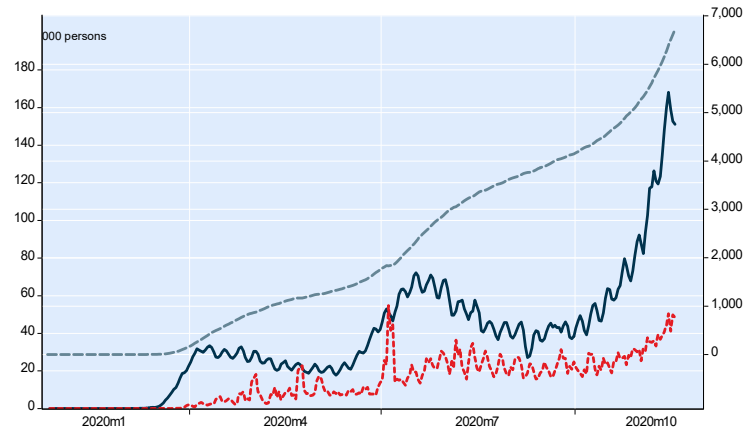
■ New cases (left axis) ■ New recoveries (left axis) ■ Active cases (confirmed – recovered – deaths, right axis)

World



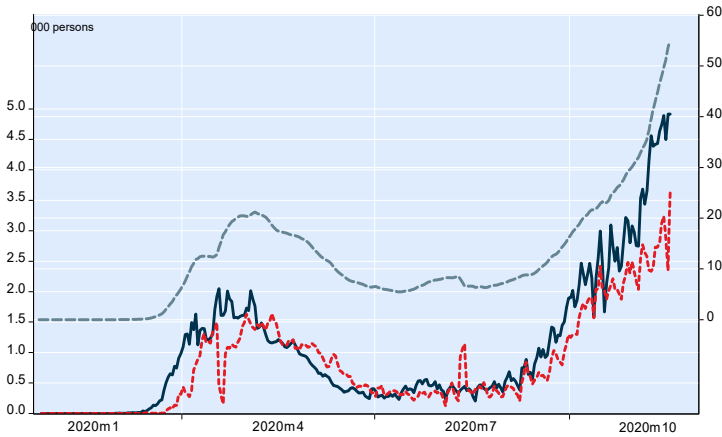
NBF Economics and Strategy

United States



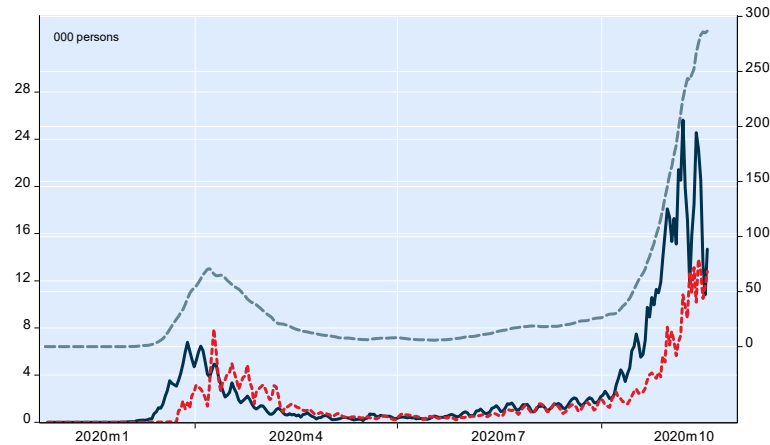
NBF Economics and Strategy

Canada



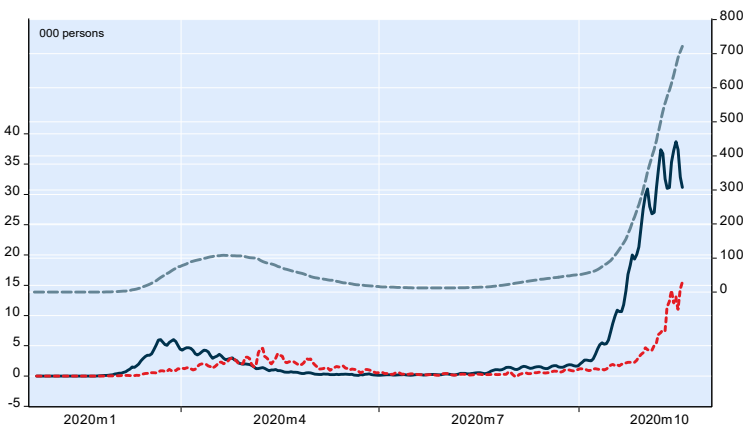
NBF Economics and Strategy (data via Johns Hopkins CSSE, Public Health Canada, INSPQ)

Germany



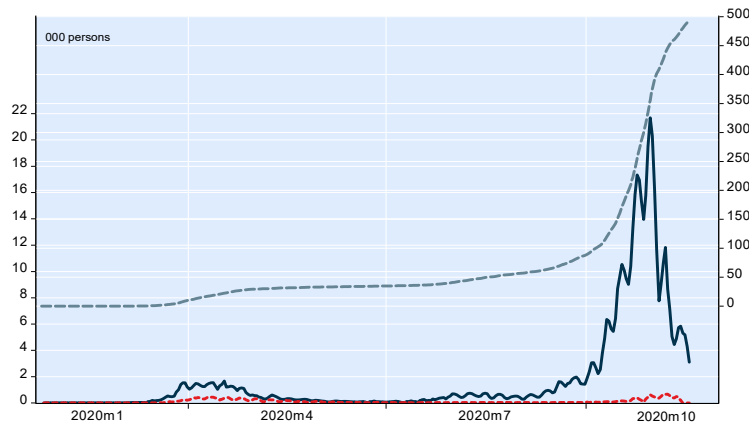
NBF Economics and Strategy

Italy



NBF Economics and Strategy

Belgium



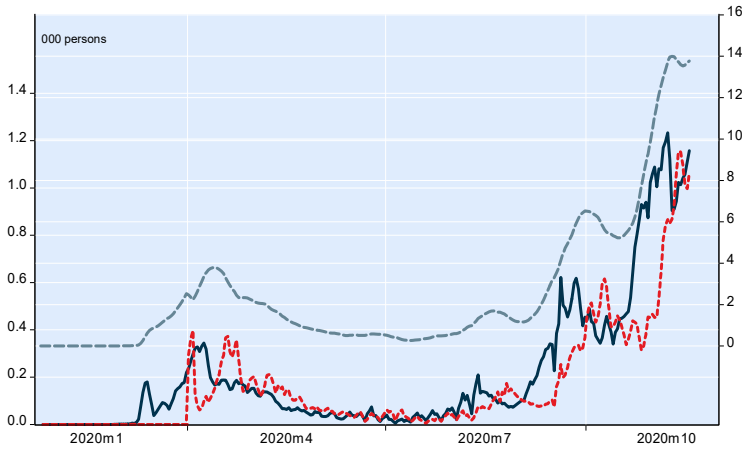
NBF Economics and Strategy

3. Evolution of the COVID-19 pandemic, selected countries (continued)

Daily change in new cases and in total active cases (data via Johns Hopkins CSSE)

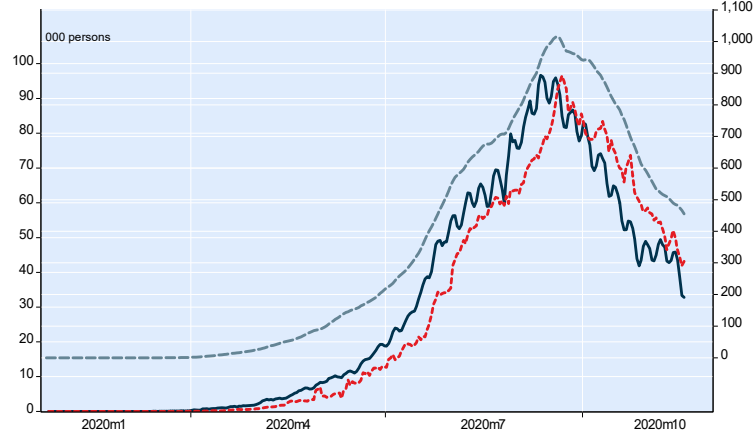
■ New cases (left axis) ■ New recoveries (left axis) ■ Active cases (confirmed – recovered – deaths, right axis)

Denmark



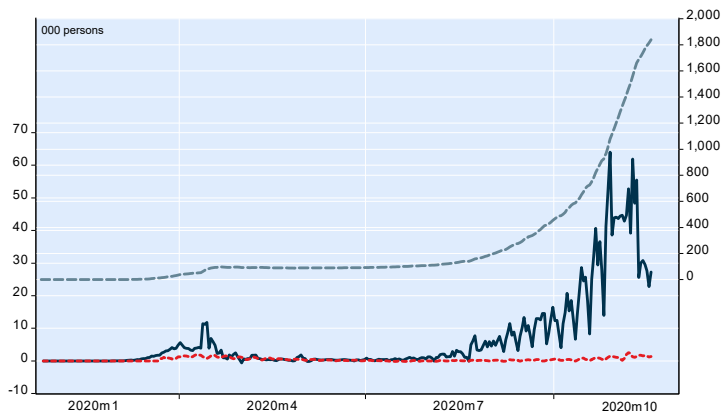
NBF Economics and Strategy

India



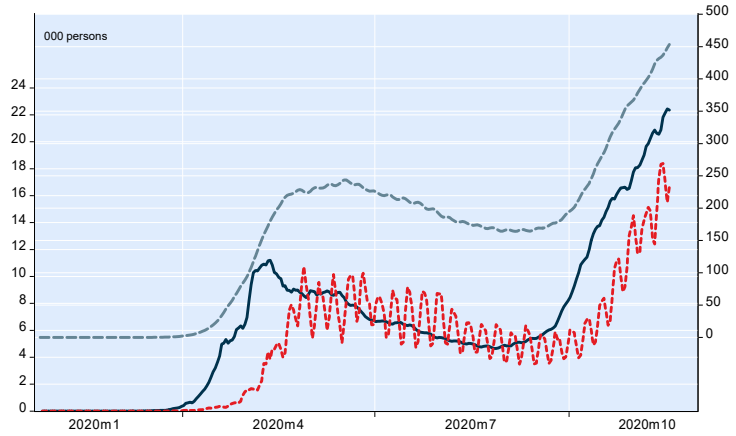
NBF Economics and Strategy

France



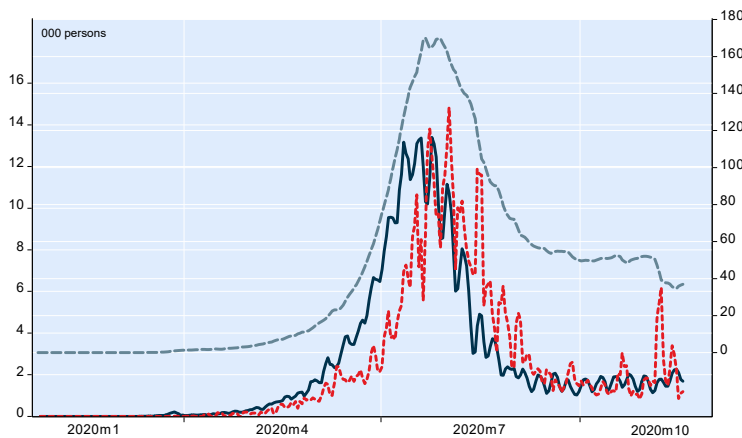
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Russia



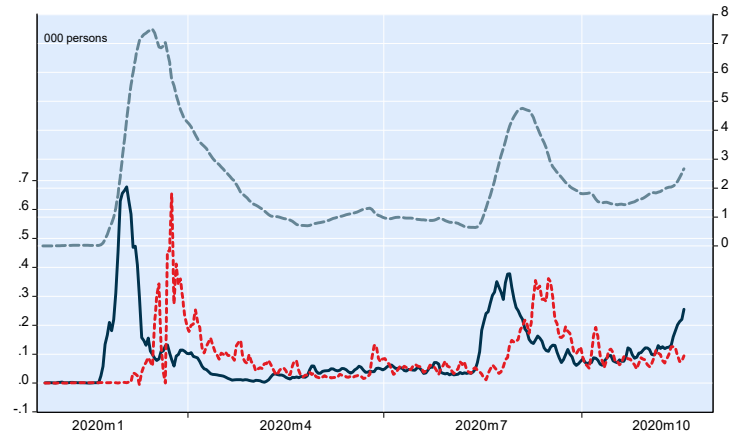
NBF Economics and Strategy

South Africa



NBF Economics and Strategy

South Korea



NBF Economics and Strategy

4. World, cases per million population

	Total cases per million population since start of the pandemic	Average new daily cases per million population					7 days vs 28 days trend
		Q2 2020	Q3 2020	October	Last 28 days	Last 7 days	
Austria	23 163	9.3	32.6	215.3	583.5	788.8	↑
Switzerland	31 194	19.2	27.1	376.3	777.3	649.2	↓
Portugal	22 132	37.4	35.6	208.0	442.7	600.9	↑
Italy	19 945	24.5	13.4	194.5	474.7	573.2	↑
United States	33 980	81.9	152.6	187.0	335.5	477.5	↑
France	30 526	23.9	63.7	393.4	601.3	451.3	↓
Sweden	17 561	68.6	26.8	100.6	304.3	427.2	↑
Belgium	46 410	46.1	53.5	865.0	925.8	408.4	↓
Spain	32 015	36.0	120.9	287.4	398.5	393.6	↓
United Kingdom	20 486	39.7	27.1	265.3	341.0	372.4	↑
Netherlands	26 420	24.2	44.8	433.6	443.1	313.4	↓
Germany	9 758	16.2	12.6	92.0	195.3	218.4	↑
Denmark	10 934	18.8	28.6	102.2	173.7	187.3	↑
Brazil	27 646	72.2	174.3	110.0	107.2	143.0	↑
Canada	8 037	28.3	15.8	64.7	97.3	125.5	↑
Norway	5 245	8.6	10.3	37.5	87.9	111.4	↑
Israel	37 520	25.2	276.6	256.9	79.9	80.5	↑
Finland	3 505	11.5	5.4	35.6	37.4	39.7	↑
Turkey	4 951	24.3	15.3	21.7	29.6	37.4	↑
Mexico	7 899	19.3	44.0	45.9	42.0	36.5	↓
South Africa	12 684	27.8	95.9	27.8	28.9	33.7	↑
India	6 430	4.7	45.1	43.7	32.7	28.7	↓
Japan	945	1.4	5.6	4.5	7.7	12.2	↑
South Korea	566	0.7	2.3	1.7	2.7	4.2	↑
Australia	1 090	1.5	8.2	0.6	0.5	0.6	↑
China	65	0.0	0.0	0.0	0.0	0.0	↓

Data via Johns Hopkins CSSE

5. World, deaths per million population

	Total deaths per million population since start of the pandemic	Average new daily deaths per million population					7 days vs 28 days trend
		Q2 2020	Q3 2020	October	Last 28 days	Last 7 days	
Belgium	1261	8.6	0.3	4.5	13.4	15.8	↑
Switzerland	409	1.9	0.1	0.8	6.3	10.7	↑
Italy	756	4.1	0.2	1.5	5.8	9.8	↑
France	685	4.4	0.3	2.3	6.7	8.9	↑
Portugal	341	1.5	0.4	1.7	4.7	7.5	↑
Spain	882	4.7	0.8	2.8	5.7	7.2	↑
Austria	210	0.7	0.1	1.1	4.1	7.1	↑
United Kingdom	768	6.1	0.3	2.1	4.6	6.3	↑
Netherlands	498	3.3	0.2	1.9	3.8	4.0	↑
Mexico	774	2.4	4.2	3.6	3.4	3.6	↑
United States	750	4.1	2.6	2.3	2.9	3.5	↑
Brazil	781	3.1	4.3	2.4	2.0	2.6	↑
Sweden	610	5.6	0.4	0.3	1.1	2.4	↑
Germany	153	1.1	0.1	0.4	1.4	2.3	↑
Canada	291	2.5	0.2	0.7	1.2	1.7	↑
South Africa	343	0.5	2.6	1.4	1.1	1.2	↑
Turkey	138	0.6	0.4	0.8	1.0	1.1	↑
Israel	316	0.4	1.6	3.6	1.9	0.9	↓
Denmark	132	1.0	0.1	0.4	0.5	0.4	↓
India	95	0.1	0.6	0.5	0.4	0.4	↓
Norway	54	0.4	0.0	0.0	0.1	0.3	↑
Finland	67	0.6	0.0	0.1	0.1	0.2	↑
Japan	15	0.1	0.1	0.0	0.1	0.1	↑
South Korea	10	0.0	0.0	0.0	0.0	0.0	↓
Australia	36	0.0	0.3	0.0	0.0	0.0	↓
China	3	0.0	0.0	0.0	0.0	0.0	↓

Data via Johns Hopkins CSSE

6. Canada, cases per million population

	Total cases per million population since start of the pandemic	Average new daily cases per million population					7 days vs 28 days trend
		Q2 2020	Q3 2020	October	Last 28 days	Last 7 days	
Manitoba	8 221	1.8	13.2	87.2	210.2	282.8	↑
Alberta	9 089	18.5	24.5	70.0	145.1	196.7	↑
Quebec	14 586	66.0	24.0	119.4	128.4	148.3	↑
Saskatchewan	4 396	5.6	10.4	33.7	90.4	146.4	↑
British Columbia	4 457	4.1	13.2	32.9	81.9	122.7	↑
Ontario	6 704	26.1	12.6	53.6	76.7	96.8	↑
New Brunswick	480	1.3	0.5	5.9	3.0	4.4	↑
Nova Scotia	1 170	10.3	0.3	0.7	2.0	2.8	↑
Newfoundland	580	2.3	0.3	1.1	1.2	2.2	↑
Prince Edward Island	426	0.4	2.2	1.0	0.9	0.9	↑

Data via Johns Hopkins CSSE

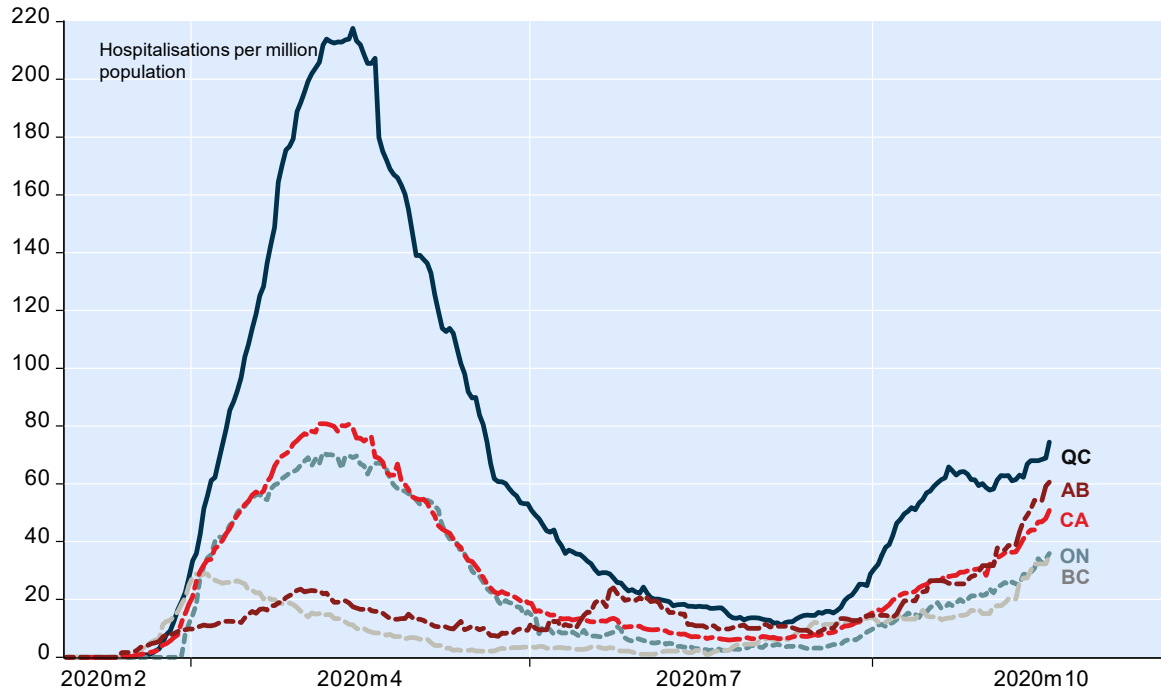
7. United States, cases per million population

	Total cases per million population since start of the pandemic	Average new daily cases per million population					7 days vs 28 days trend
		Q2 2020	Q3 2020	October	Last 28 days	Last 7 days	
Wisconsin	57 461	51.4	174.8	640.4	946.6	1186.1	↑
Illinois	46 185	119.0	130.8	307.6	686.0	977.0	↑
Indiana	38 137	70.9	120.2	284.3	591.7	909.7	↑
Missouri	40 524	36.3	185.8	311.6	537.1	778.2	↑
Michigan	28 933	69.1	73.2	191.8	467.9	737.9	↑
Tennessee	46 695	66.2	242.9	304.8	455.8	648.1	↑
Ohio	26 124	46.6	95.0	170.3	387.4	622.8	↑
Pennsylvania	21 499	74.0	61.9	122.7	253.8	411.9	↑
New Jersey	31 692	189.3	41.1	118.4	254.6	403.5	↑
Massachusetts	27 630	150.7	43.6	123.8	246.1	374.8	↑
Texas	36 796	60.4	228.7	177.2	266.8	337.5	↑
Arizona	38 044	117.7	208.0	121.6	230.4	329.0	↑
Maryland	27 732	119.8	102.8	109.7	195.3	309.5	↑
Florida	41 432	74.5	280.4	144.2	227.7	300.3	↑
Virginia	28 012	82.8	125.1	156.9	225.2	298.9	↑
North Carolina	29 958	68.8	148.6	196.9	234.1	273.1	↑
Washington	17 273	39.5	78.1	84.6	164.0	264.7	↑
Georgia	40 145	80.1	242.4	129.9	296.5	254.6	↓
New York	28 976	179.4	36.4	81.1	151.1	239.6	↑
California	26 364	62.1	161.7	92.3	152.3	227.2	↑

Data via Johns Hopkins CSSE

8. Canada: Current hospitalisations related to COVID-19

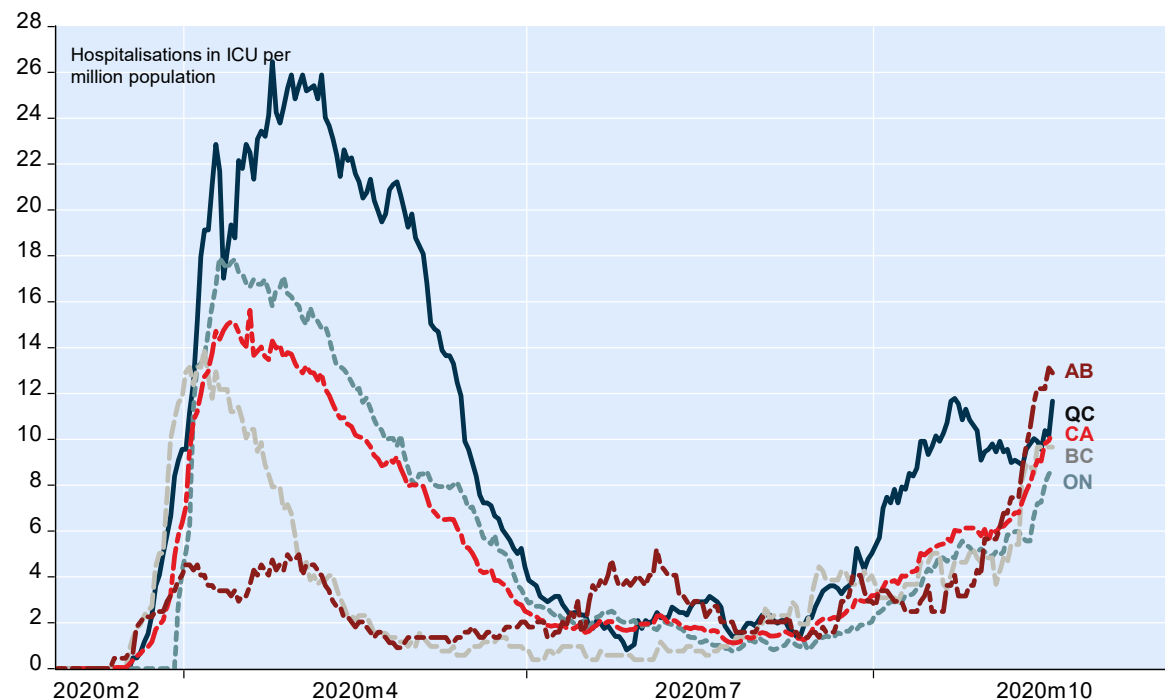
Hospitalisations per million population



NBF Economics and Strategy (data via INSPQ, Radio Canada <https://ici.radio-canada.ca/info/2020/coronavirus-covid-19-pandemie-cas-carte-maladie-symptomes-propagation/>)

9. Canada: Current hospitalisations in ICU related to COVID-19

Hospitalisations in ICU per million population



NBF Economics and Strategy (data via INSPQ, Radio Canada <https://ici.radio-canada.ca/info/2020/coronavirus-covid-19-pandemie-cas-carte-maladie-symptomes-propagation/>)

10. How do the COVID-19 vaccine clinical trials evolve?

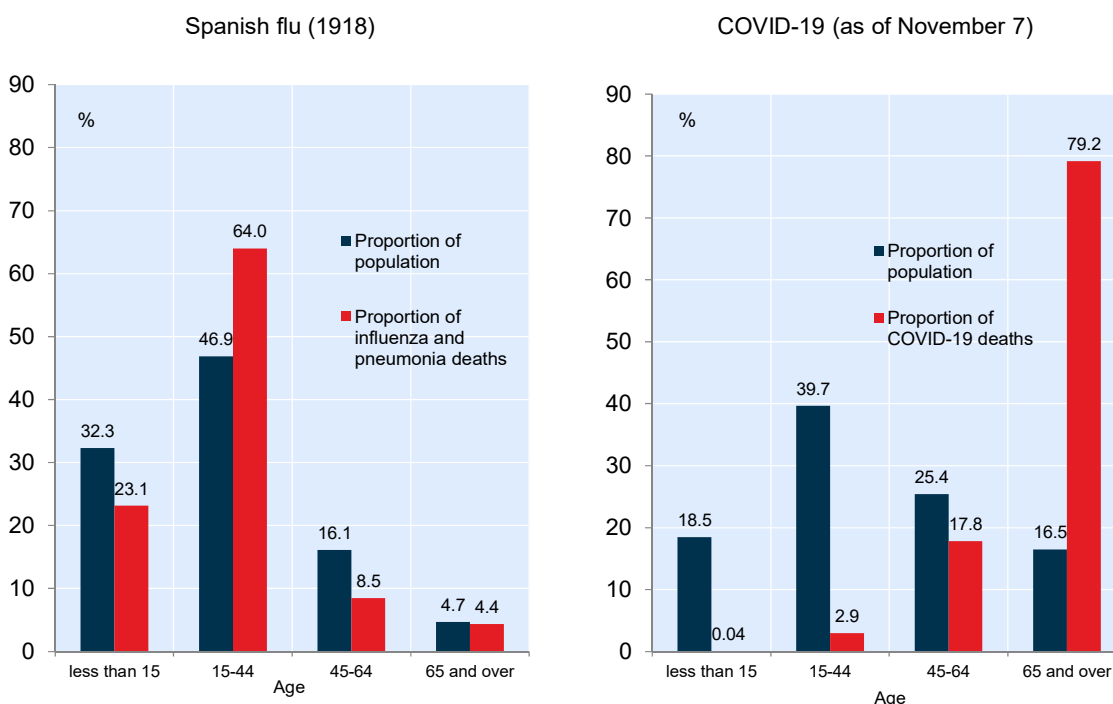
Candidate vaccines in clinical trials, organizations that have entered phase 3

Organisation	Phase of clinical trials started			
	Phase 1	Phase 2	Phase 3	Approved
Beijing Institute of Biological Products/Sinopharm	X	X	X	
Sinovac	X	X	X	
CanSino Biologics/Beijing Institute of Biotechnology	X	X	X	
University of Oxford/AstraZeneca	X	X	X	
Gamaleya Research Institute*	X	X	X	X
Wuhan Institute of Biological Products/Sinopharm	X	X	X	
BioNTech/Fosun Pharma/Pfizer	X	X	X	
Moderna/NIAID	X	X	X	
Novavax	X	X	X	
Janseen (Johnson & Johnson)	X	X	X	
Vector Institute*	X	X		X

* Russia approved 2 vaccines without completing all of the tests

NBF Economics and Strategy (data via Radio Canada <https://ici.radio-canada.ca/info/2020/07/vaccin-developpement-covid19-immunite-anticorps/>, various news sites)

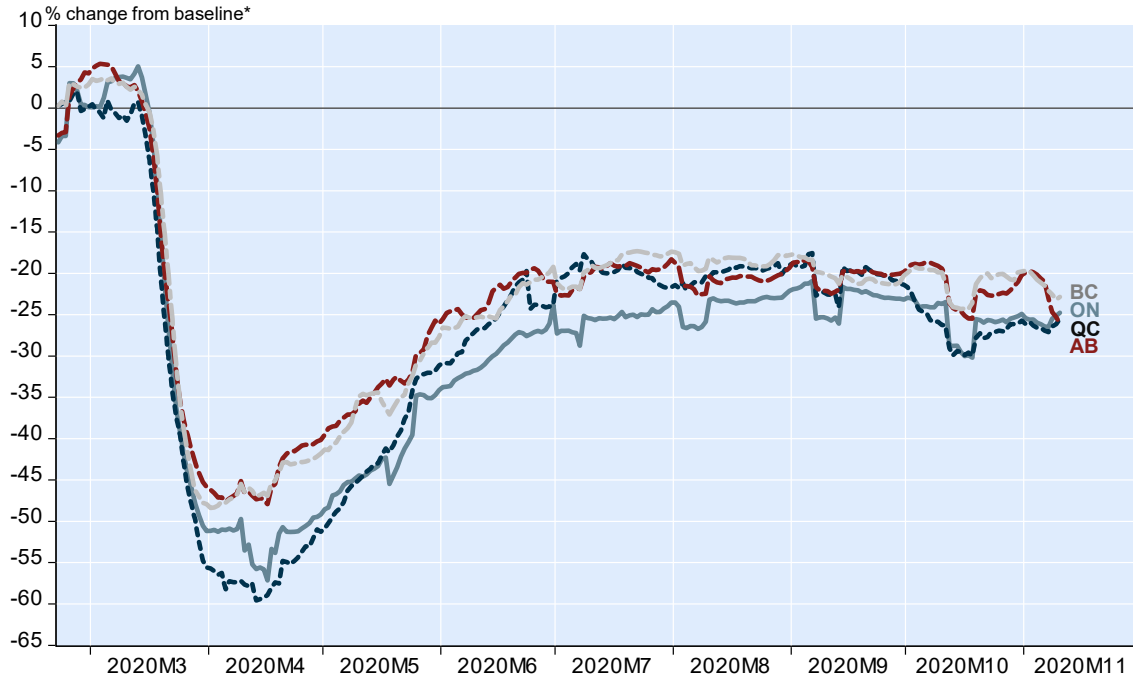
11. United States: Perspective on pandemic related deaths



NBF Economy and Strategy (data via CDC: https://www.cdc.gov/nchs/data/vsushistorical/mortable_1918.pdf, https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm, Census Bureau)

12. Canada: Back to normal index

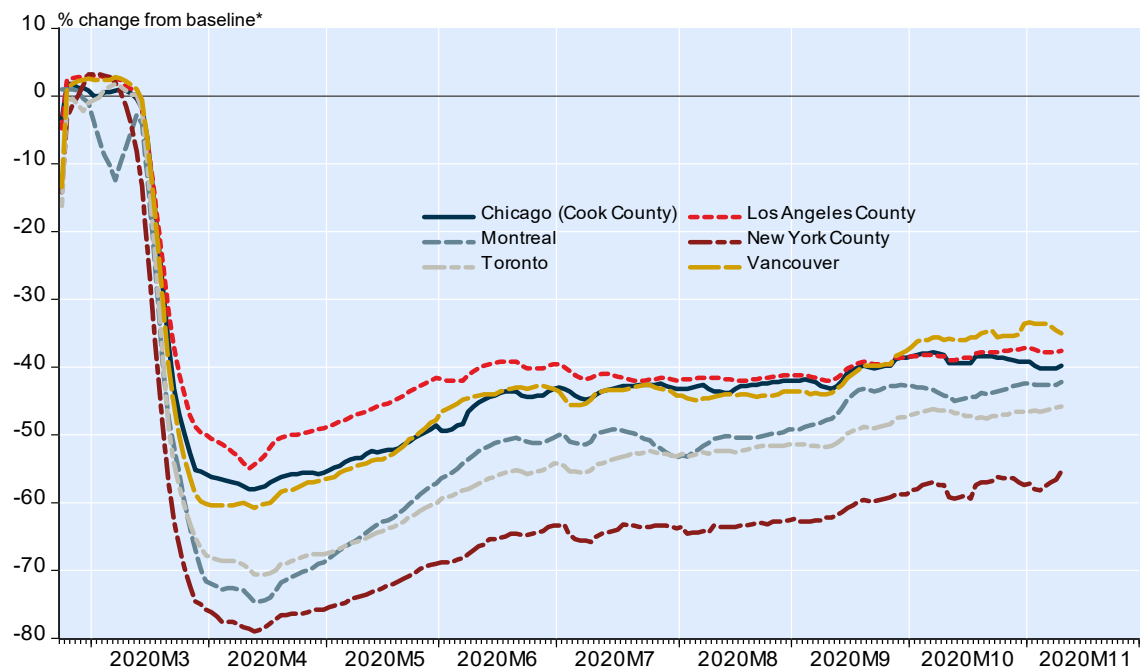
Google mobility data for retail & recreation, grocery & pharmacy, transit and workplaces, 7-day mov. average



*The baseline is the median value of the corresponding day of the week during the 5 week period from January 3 to February 6
NBF Economics and Strategy (data via Google)

13. Canada and United States: Return to workplaces

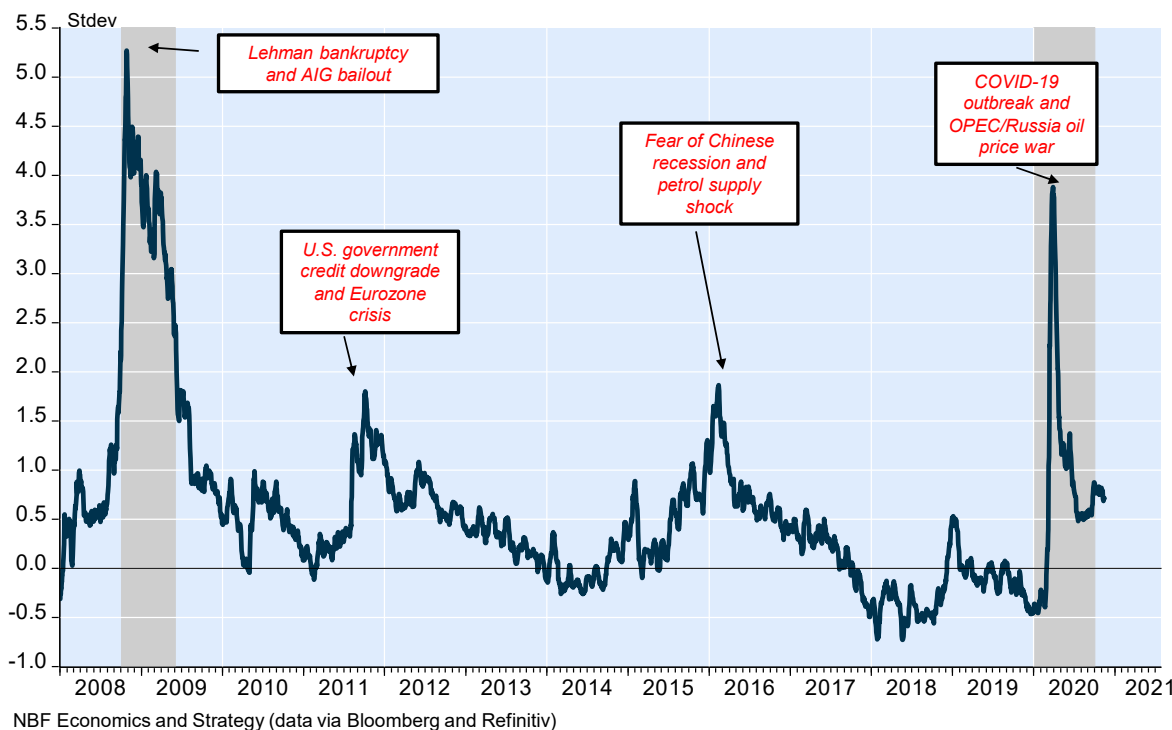
Google mobility data for workplaces, 5 day mov. av. (workdays only), 3 largest CMA's of Canada and the U.S.



*The baseline is the median value of the corresponding day of the week during the 5 week period from January 3 to February 6
NBF Economics and Strategy (data via Google)

14. Canada: Perspective on financial stress

NBF financial stress index



Our Canadian financial stress index (FSI) covers several asset classes. It emphasizes the financial sector, given its role in allocating capital to households and businesses. Our composite index is constructed based on a factor analysis model detecting common variations of normalized indicators. See below the variables included in the FSI.

NBF Financial Stress Index for Canada

Variables	Estimation
Beta S&P/TSX financials	$\beta = \text{cov}(r,m)/\text{var}(m)$ calculated daily over a rolling 1- year time horizon, where r = daily percentage change in the S&P/TSX Financials Total Returns Index. m = daily percentage change in the S&P/TSX Total Returns Index.
Financials bond yield spread	Approximated by the AA-rated long-term corporate bond yield, of which most constituents are financial issuers, minus the 10-year Canadian government bond yield.
S&P/TSX equity risk premium proxy	The S&P/TSX 12-month forward earnings divided by the price of the index minus the 10-year Canadian government bond yield.
S&P/TSX historical 1-month volatility	1-month historical volatility of the S&P/TSX.
USD/CAD historical 1-month volatility	1-month historical volatility of the USD/CAD exchange rate.
BBB rated corporate bond yield spread	BBB rated long-term corporate bond yield minus the 10-year Canadian government bond yield.
Provincial spread	Long-term provincial government bond yield minus the 10-year Canadian government bond yield.

Source: NBF Economics and Strategy (data via Bloomberg and Refinitiv)

Economics and Strategy

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