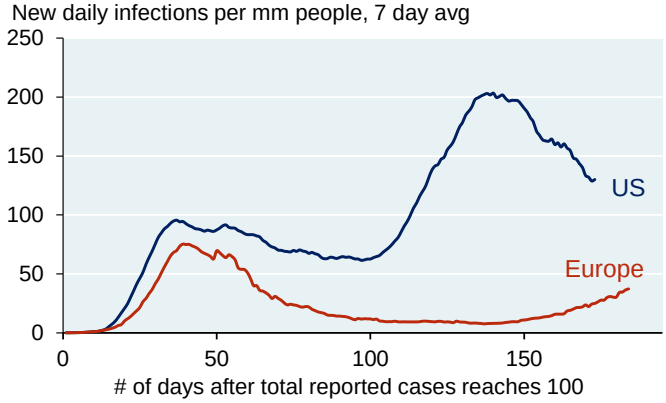
Charts of the Week: US infections collapsing; the lower mortality rate of second waves of infection; Latin America; White House COVID adventures of the week (botched announcement on convalescent plasma and AstraZeneca's rejection of US vaccine fast-tracking)

Note: the next Eye on the Market will come out on September 8 and cover the cost of engineering the US recovery, Biden's taxation and spending agenda, WeChat and Trump's executive orders, and an analysis of market risks from the Big 6 tech stocks which account for a growing share of returns and market cap

US and Europe

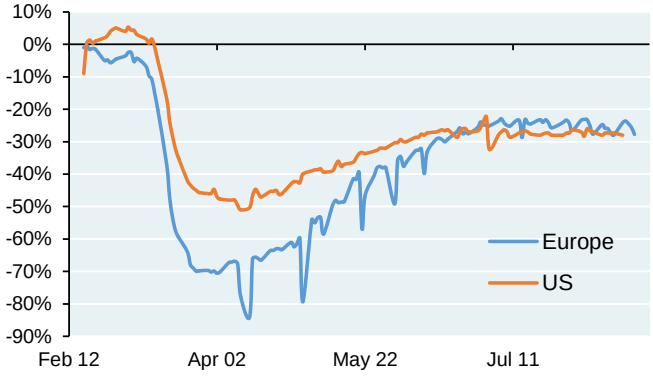
US infections are finally collapsing at a rate similar to what Europe experienced 3 months ago, although with schools and businesses reopening, it's probably too soon to extrapolate a linear decline from here. At the same time, reopening in Europe is leading to a modest rise in infections.

US vs Europe infections
New daily infections per mm people, 7 day avg



Source: Johns Hopkins University, IMF, JPMAM. August 24, 2020

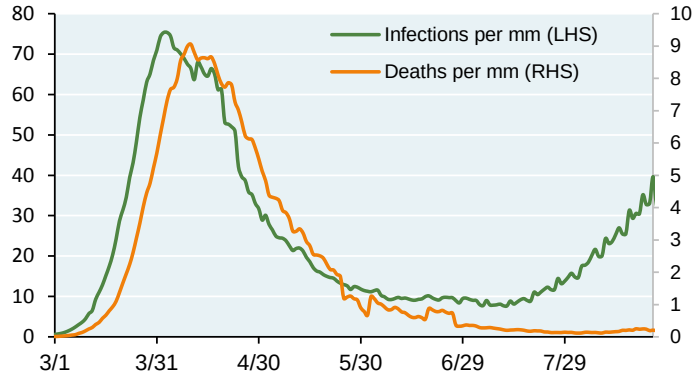
Regional mobility data
% change from baseline: retail, restaurants, transit & workplace



Source: Google, JPMAM. August 21, 2020.

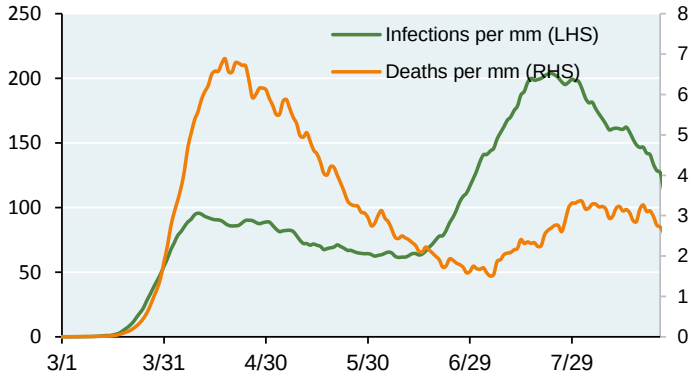
The critical distinction between first and second waves: **much lower mortality rates this time around**, particularly in Europe. The most likely explanations: a younger cohort of more recent infections, and use of anti-coagulants, steroids (Dexamethasone) and other treatments to reduce stress on vascular and pulmonary systems in hospitalized patients.

Europe new daily infections vs mortality per mm people



Source: JHU, Our World in Data, JPMAM. 08/24/2020.

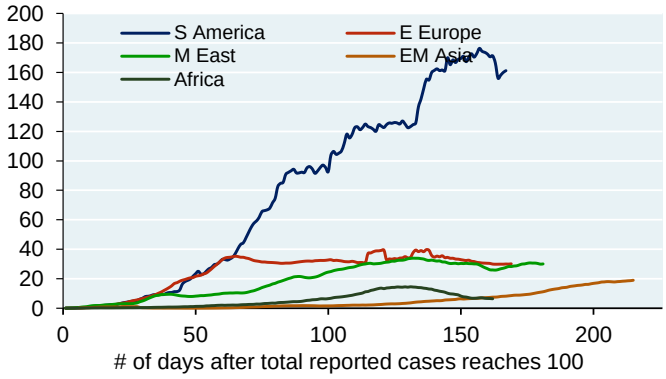
US new daily infections vs mortality per mm people



Source: JHU, Our World in Data, JPMAM. 08/24/2020.

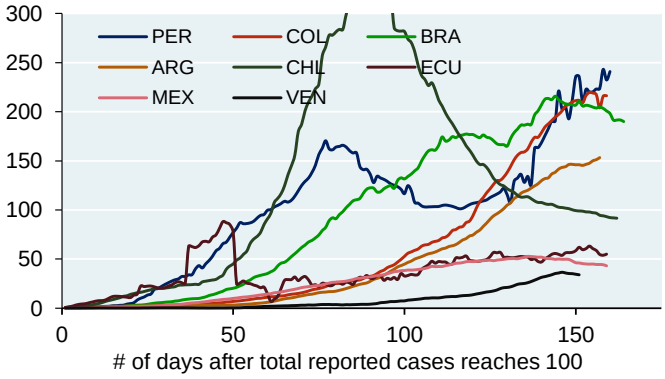
I haven't yet seen a good explanation for any health system, mobility or behavioral dynamics that explain why Latin America has experienced such a higher level of infection than the rest of the developing world. The second chart shows the breakdown by country. For context, the current US infection level is 125 per mm people, and in Europe, 40 per mm.

EM World infections
New daily infections per mm people, 7 day avg



Source: Johns Hopkins University, IMF, JPMAM. August 24, 2020

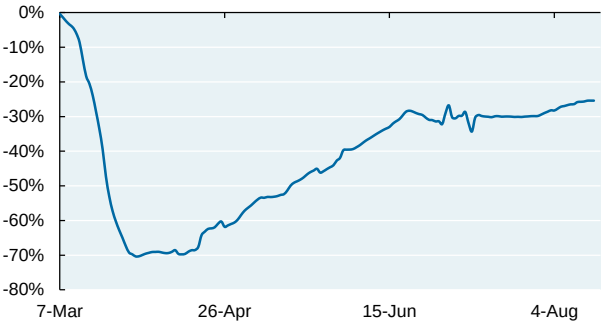
Latin America infections
New daily infections per mm people, 14 day avg



Source: Johns Hopkins University, IMF, JPMAM. August 24, 2020

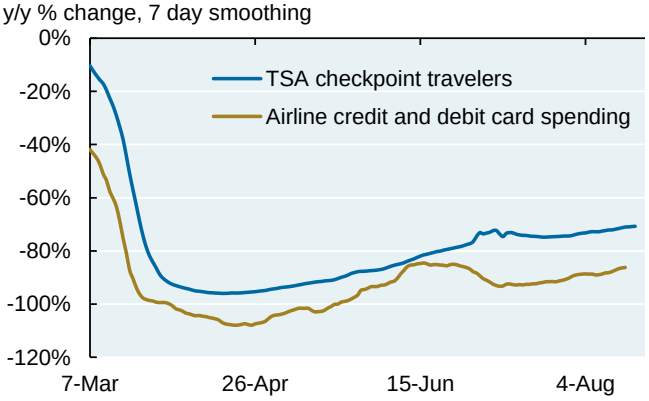
The July spike in US infections led to a plateau in the rate of year-on-year improvements in "social distancing spending", which refers to in-person spending at retail establishments, hotels, restaurants, amusement parks, etc. We're now seeing social distancing spending rise again. However, there's still little improvement in airline spending vs March levels. TSA checkpoint traveler data has improved at a slightly faster pace, suggesting a combination of shorter trips, more discounted fares and less business travel.

National credit and debit card spending trends
Social distancing spending, card present transactions
Spending change 2020 vs 2019, 7 day smoothing



Source: Internal Chase data, JPMAM. Social distancing: retail, lodging, restaurants, amusement parks, theaters and other recreational services. Aug 16, 2020.

Airline spending vs TSA checkpoint travelers
y/y % change, 7 day smoothing



Source: Internal Chase data, TSA, JPMAM. Aug 16, 2020.

White House COVID adventures of the week: the botched announcement on convalescent plasma and AstraZeneca's rejection of US vaccine fast-tracking

Convalescent plasma. Trump announced Emergency Use Authorization (EUA) for convalescent plasma to expand access despite the lack of rigorous scientific evaluation. In contrast, the EUA for Remdesivir took place only after randomized controlled trial results were available.

The details: the Mayo Clinic study reported that mortality rates were lower for patients given convalescent plasma within 3 days of COVID diagnosis compared to patients receiving it after 3 days (7-day mortality rates 8.7% vs 11.9%, 30-day mortality rates 21.6% vs 26.7%). But in the absence of a randomized controlled trial, it's hard to draw firm conclusions since we don't know anything about patient characteristics, dosages, treatment settings, etc. Such "observational studies" were the basis for media speculation a few months ago on hydroxychloroquine (HCQ). There's probably more benefit to convalescent plasma, since it has been used for over 100 years to treat infectious disease. But randomized controlled trials are the only way to conclusively prove efficacy, check for adverse outcomes and determine the optimal dosage regime. It's disappointing that over 70,000 patients have been treated with convalescent plasma in the US with no scientifically rigorous control data produced yet.

Fauci and the director of the NIH discouraged the FDA from issuing an EUA for convalescent plasma (citing concerns over weak data), but the FDA issued it anyway. Yesterday there was a **completely embarrassing fiasco** in which the FDA Commissioner admitted misrepresenting the study results (after being chided by a prior FDA commissioner), and main authors who worked on the study said they had **no idea** where the 35% mortality improvement statistic cited by the White House came from. From Derek Lowe at Translational Medicine:

> "A big effect of this plasma announcement, as far as I can tell, was to sow doubt about what the administration considers a breakthrough and what its intentions are about authorizing a vaccine before the November election… the President himself, in his Sunday morning Twitter duties, accused the so-called "deep state" at the FDA of literally dragging their feet in trying to not get a vaccine before the election. Which was a suggestion I found false, infuriating, and as harmful as such a short statement could be to the chances of rolling out a vaccine in an orderly and medically justified way."

There is a randomized convalescent plasma trial going on in the UK, but it will take a long time to complete since there are so few people currently hospitalized in the UK with COVID. Remember as well that convalescent plasma is difficult to scale since it requires the pooling of many donors given the individual variability in antibody levels. Many virus scientists are much more hopeful about **monoclonal antibodies**, which are based on the same principle (inject short-lived antibodies into very sick patients needing an immune system boost) but which involve manufacturing the antibodies in bioreactors (plants or mice, for example) rather than sourcing them from recovered patients.

Oxford/AstraZeneca vaccine fast-tracking before the election. The Financial Times reports that the Trump Administration might bypass normal US regulatory standards and provide an EUA to the Oxford/AstraZeneca vaccine before the 2020 election based on partial Phase III results rather than the entire participant group. To be clear, AstraZeneca has not applied for this EUA, and rejected any such shortcuts being explored by the Trump administration.

The details: Oxford and AstraZeneca are working on a novel adenovirus "vector" vaccine that has **never been approved for use before in the developed world**. The approach entails a complex "Trojan Horse" process that relies on a separate chimpanzee virus to deliver instructions to the body's cells to produce spike proteins for SARS-CoV-2, which would then provoke an antibody response. AstraZeneca is conducting global trials in the UK, the US, South Africa and Brazil with a total of 50,000 participants.

The FDA has reportedly cited 30,000 as the minimum number of participant results from Phase III trials needed to approve a vaccine. Remember, vaccines are given to large numbers of completely healthy people to protect them from a disease that has an infection mortality rate estimated at less than 1%. As a result, the bar for efficacy and safety is much higher than for anti-viral and other treatments used on hospitalized patients. However, the Trump administration is reportedly considering approval based on the UK trials alone, which are based on 10,000 participants. We have written before about how the US ranks well below median across all countries with respect to vaccine usage and confidence. Premature approval of a vaccine could reduce those figures further.

Sources: The Times (London), New York Times, Mayo Clinic, Financial Times, CNN and Translational Medicine. The August 24th NYT piece on the FDA fiasco by Thomas/Fink is one of the **more depressing articles I have read** on the scientific competency of the Federal government.

This report uses rigorous security protocols for selected data sourced from Chase credit and debit card transactions to ensure all information is kept confidential and secure. All selected data is highly aggregated and all unique identifiable information—including names, account numbers, addresses, dates of birth, and Social Security Numbers—is removed from the data before the report's author receives it.