U.S. Economy: Get ready for extra innings

Office of the Chief Economist

September 18, 2017

GDP	Core CPI	Unemployment	Total Home Sales	o/n rate	10-year bond
3.0%	1.7%	4.4%	0.9% (Y/Y)	1.0 – 1.25%	2.2%

— The **Federal Reserve** took a **pause in its rate-hiking cycle,** which is likely to last **until December**

— **Trends under way** before Hurricanes Harvey, Irma and others on the horizon **should remain in force**

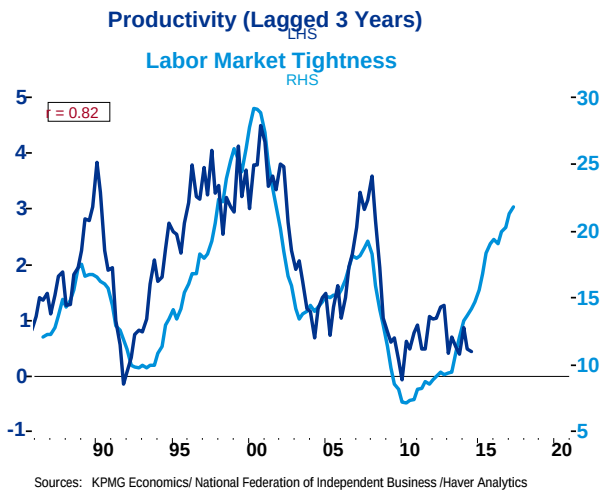
— The **impact from Harvey and Irma could shave up to 0.8 -2.1% off Q3 GDP**

— **Consumption** last quarter was steady as a result of **continued jobs growth** and **some better wage data**

— The **recovery** could well become the **longest in post-WWII history,** exceeding the current 11-year record

— Despite this, the slow pace of growth and modest inflation **limit the Fed's ability to "normalize" interest rates**

The longest recovery in history lasted 40 quarters from 1991-2001, while the second longest lasted 35 quarters from 1961-1969. At its existing pace, the **current recovery, is a strong contender to break these two previous records**. While expansions do not just die of old age, they do perish when shortages push prices to the point where demand ultimately falls. While our analysis suggests this is probably a late-2018 or early-2019 event, we do see some emergent shortages that bear monitoring. There are **several possible paths the final quarters of the recovery could take**, many of which are mutually inclusive.



Sources: KPMG Economics/ National Federation of Independent Business /Haver Analytics

The first and most promising outcome would be slightly stronger growth and **higher wages as an impetus to greater capital investment** which yields **greater productivity down the road**. History suggests this is a likely scenario as the graph on the left shows. Necessity is the mother of invention and has promoted increased investment and productivity in the past. This outcome would likely prolong the recovery as it would **mitigate the capacity limiting aspects of a tight labor supply.**

More likely is that **critical areas of the economy experience bottlenecks to expansion due to labor shortages**. As these bottlenecks become more pronounced and widespread, the price of labor rises, margins are squeezed and firms raise prices causing the Fed to raise rates a bit more frequently. At some point, **higher prices ultimately reduce demand** and the economy tips into a **mild business cycle recession**. The **Goldilocks scenario** would involve a **productivity rise ahead of widespread labor shortages and concomitant wage increases**.

Ask the Economist

This month we address the **economic costs of Hurricanes Harvey and Irma**. A common question after a natural disaster is "**Won't this rebuilding boost growth?"** The answer is **both yes and no**.

In so much as capital (homes, plant and equipment) is destroyed, **the effect is akin to a stock market crash, after which lower wealth effects reduce consumption**. However if the affected area is adequately insured, that loss is mitigated. The uninsured portion of the rebuild effort uses monies that would have been spent elsewhere in the economy had the disaster not occurred. While GDP initially falls during the quarter the disaster occurs and ultimately rises due to rebuilding, it is difficult to say more net GDP occurred than would have been the case had the disaster never occurred. Nevertheless, **a large-scale rebuild** affords the opportunity to **improve infrastructure** which can lead to greater growth opportunities in future quarters.

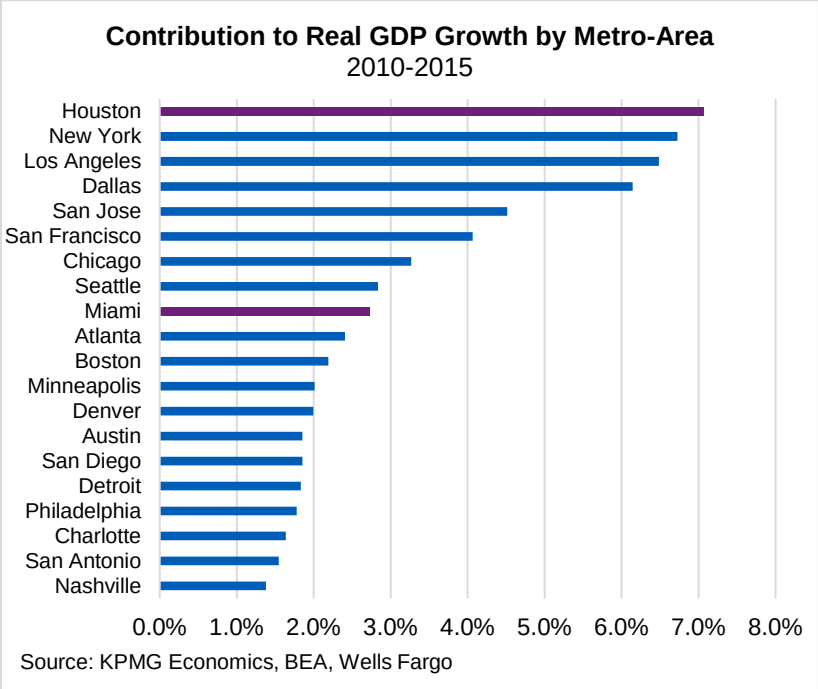
Traditional lost GDP estimation methodology considers the cost of lost days worked, lost property plant and equipment, and lost inventory values. It applies some multipliers to these values and voila—the economic cost of the disaster is ascertained. In our analysis, we used FEMA disaster declarations by county to determine the geographic scope of the direct impact, and we use BEA (U.S. Bureau of Economic Analysis) data on personal income by county to begin determining the scope of the GDP effects. In the table on the next page we show estimates for lost economic activity from the storms. It is important to note this is not the same as total storm damage estimates (which are much higher and consider the lost value of homes, automobiles and the like). It will take at least another month, if not longer, before the full scope of the impact can be ascertained and modeled effectively.

Greater Houston Facts:

- 4th largest U.S. city by population at 2.3 million people
- 5th largest U.S. city by economy at $550 billion annual GDP
- 2.8% of U.S. GDP
- 185,000 Homes damaged
- 9,000 Homes unusable
- 35% of Homes insured

Florida Facts:

- 3rd largest U.S. state by population at 20.6 million people
- 4th largest U.S. state by economy at $927 billion annual GDP
- 5.0% of U.S. GDP
- 15,000 Homes damaged
- 11,000 Homes unusable
- 41% Homes insured



Other factors to consider are the **level of insurance for households and businesses**. Core Logic estimates that **65% of Houston home-owners were not insured** because they were outside of the 100-year floodplain**.** In Houston, the value in these homes has literally been washed away (much like a stock market crash or a currency devaluation). This will exacerbate the problems surrounding recovery from Harvey as lost working days will increase and lower consumption impacts will be compounded.

In the case of Florida, the flood insurance rate for hazard-zone homes was 41%, meaning nearly **59% of affected homes were uninsured**. However the **damage from Hurricane Irma to Florida and nearby states**

was not as extensive as that of Harvey to Houston, so lost capacity in Florida is not expected to be as significant as in Houston. (See tables on the next page.) The sheer size of the disaster is also an important factor. In the case of **Irma, every single county in Florida was declared a "major disaster" by FEMA** and several counties in Georgia and South Carolina were also impacted.

In the case of **Harvey**, the **immense scope of the damage is important to consider,** particularly the damage to such key sectors as **chemicals, natural gas and oil.** This has particularly significant **knock-on effects, as shortages raise prices and limit capacity** in a variety of industries throughout the economy.

The size of Houston's economy is also significant. It was the largest single contributor to GDP by metro area during the recovery, owing largely to the oil and gas sector's growth over the past 8 years. Houston is also the largest metro area in terms of housing permits, adding close to 25,000 homes year to date. [1] [2]

	Harvey		Irma	
	Low	High	Low	High
% of total U.S. 2015 Personal Income in Affected Areas	2.8%	2.8%	1.8%	1.8%
Share of activity that occurs during Days of Disruption (days)	0.75	0.5	0.95	0.85
Days of Disruption	14	35	10	22
Pre-Storm Real GDP Forecast for Q3 (bil$, a.r.)	$17,168	$17,168	$17,162	$17,162
In Directly Affect Areas	$486	$486	$316	$316
Lost GDP After Adjusting for Duration and Intensity (bil$, a.r.)	($18)	($91)	($29)	($75)
Intra-Quarter Offset Share	0.25	0.15	0.25	0.15
Lost GDP After Adjusting for Intra-Quarter Offset (bil$, a.r.)	(14)	(90)	(22)	(71)
Hit to Annualized GDP Growth	(0.30)	(0.80)	(0.50)	(1.30)
Source: KPMG Economics, Macro Economic Advisers, FEMA, BEA				

Further to the direct impacts outlined above, there are **an additional area of impact to keep in mind**. We must consider the impact of the recovery in connection to where the economy is in the business cycle. The shortage of workers is expanding to a greater number of sectors across the economy; importantly, one place where shortages appear to be nearing acute levels is in construction and home building. According to a July survey by the National Association of Home Builders, labor shortages were experienced more than 60% of the time for specialty areas such as framing crews (77%), carpenters – rough (76%), carpenters – finished (74%), bricklayers and masons (63%), concrete workers (63%), and drywall installers (61%). Estimates **for the two hurricanes** suggest that approximately **200,000 homes were damaged** and need repairs, while another **20,000 will need to be completely rebuilt**. This surge in demand for construction workers in Houston and Florida will put pressure on labor supply and wages in one of the sectors of the economy that was experiencing shortages *before* the storms. The multiplier from this new demand could well impact the price of construction workers around the country causing a rise in building costs and, ultimately, home prices. While it's too early to suggest this would be a tipping point for the entire economy, **construction is a sector** where a shock of this magnitude could have **a larger impact than an isolated analysis of the disaster regions might suggest**.

As we continue to monitor the impact of the two recent hurricanes (Harvey and Irma), we will look closely at not only the impacted areas, but also the knock-on effects to the economy overall. As another example, supply chain linkages could expand lost working days beyond the impacted area. Overall, we believe the **most significant impact of the hurricanes will be the delay in rate increases.** While the Fed will "look through" the impact, it is likely to err on the side of caution; this means the Fed could **refrain from raising rates until December and possibly even Q1 2018**, if the initial data suggests the impact will be at the larger end of the forecast range.

[1] Houston Population: Census; GDP: BEA, Homes (local media); Share insured: St. Louis Fed says 10-20% of Houston homes have flood insurance and 40-60% of businesses; Damage Estimate: Enki research
Florida facts[1] GDP: BEA; Homes damaged/destroyed: FEMA; Damage Estimate: Enki research; Flood insurance: FEMA

[2] Florida facts: Population: Census; GDP: BEA; Homes damaged/destroyed: FEMA; Damage Estimate: Enki research (most cited); Flood insurance: FEMA

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