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Economic Research Note

US recession risk not going anywhere for a while

- **The risk of recession in the next 12 months has moved down somewhat in our models in recent weeks**
- **But we still put the risk of recession within two years at about 1/2 and within three years at about 2/3**
- **We note that elevated medium-term recession risk need not provide an argument for accommodative policy**

Over the last several weeks, our models' assessment of the risk of a US recession beginning in the next 12 months has declined somewhat as the near-term macroeconomic data have strengthened. But we still see the risk of recession within two years at about 1/2 and within three years at about 2/3.

In essence, these elevated probabilities are driven by the simple historical fact that the United States has rarely managed to stay near full employment for more than a few years before encountering some form of overheating that has led to recession. We thus note that the elevated level of the medium-term probabilities does not necessarily argue for accommodative fiscal or monetary policy—it could be that tighter policy would be required to prevent the next overheating. The models are simply observing that policymakers have never before succeeded at striking the right balance for very long.

Modeling recession risk

We first introduced our quantitative models of recession risk in July 2015. These models were intended to measure medium-run or "background" risks of recession—that is, to assess the progression of the business cycle in the big picture and to judge whether the conditions that preceded previous recessions are now present. In later work, we introduced another set of models using higher-frequency, near-term data to assess whether the beginnings of a recession are appearing right now. We also combined the medium-term and near-term indicators into a single measure of the risk of recession beginning within 12 months, which we have since updated regularly. In this note, we introduce a few improvements to the models by adding data, incorporating some of the forecasting tools developed for our nowcaster, and integrating the near- and medium-term models more closely.

Table 1 presents the results of our near-term models. The top section of the table presents probability estimates based on probit regressions using each of the near-term indicators by themselves. We chose this list of indicators because they are timely, forward-looking, and not subject to large revisions. We add payrolls to the list in this note.

Table 1: Probabilities of US recession within 12 months from near-term indicators

Indicator	Probability	Current level	Level at 50% probability
Historical average unconditional probability	18%		
Consumer sentiment	31%	62.1	58.8
Nonmanufacturing sentiment	21%	58.8	51.1
Manufacturing sentiment	17%	54.8	43.5
Residential building permits	26%	1157	1013
Auto sales	28%	17.7	15.4
Payrolls	28%	192	8
Unemployment rate	34%	5.0	5.3
Initial claims	13%	254	290
Senior loan officer opinion survey	38%	13.7	16.8
Composite probability from near-term indicators	27%		
Background risk from medium-term indicators	35%		
Probability including background risk	30%		

Source: J.P. Morgan. "Historical average unconditional probability" is the historical average probability of a recession starting within 12 months when beginning in an expansion, unconditional on any data. All other probabilities are based on regression models. Indicators enter the models as the deviation from their two-year average, and the sample is 1955-present excluding the periods from 7 months after the beginning of a recession to 18 months after the end, except for the SLOOS, which is a weighted average of the standards indexes for C&I and CRE loans, 1990-present. Indicators are backcast based on related series where necessary to extend the sample back to 1955. The sentiment indicators are composites of multiple series. "Residential building permits" is single-family permits plus the 3-month of average of multi-family permits. "Payrolls" is the 3-month average of nonfarm payroll gains. "Composite probability from near-term indicators" is the probability from a model based on the first principal component of the indicators in the table. "Background risk from medium-term model" is the one-year probability from a model based on the first principal component of our medium-run recession indicators. "Probability including background risk" is the probability from a model including the first principal component of our near-term indicators and the first component of the medium-term indicators.

The bottom section of the table combines the individual indicators into a composite probability. We use the framework from our nowcaster to forecast any data still missing in the current month and compute the first principal component of the indicators. We then regress a dummy for a recession beginning within 12 months on this first component to predict the "composite probability from near-term indicators" in the table. We perform a similar procedure using our medium-term indicators (see below) to compute the "background risk" in the penultimate line of the table. And then we use the first component of the near-term indicators and the first component of the medium-term indicators together in a regression to predict the "probability including background risk" in the bottom line. (These composite probabilities are computed somewhat differently than in prior versions of the models. The changes allow a tighter integration of the near-term and medium-term models, and will result in the 12-month probabilities being somewhat more sensitive to the near-term data and less sensitive to the medium-term data. The footnote to the table discusses some additional model details.)

Table 2 presents similar results for our collection of medium-run indicators. Our initial work on this topic concluded that tight labor markets that push up wage growth and cut into corporate profit margins historically have foreshadowed the end of an expansion. Here we add prime-age male labor force participation to the model as another indicator of labor market tightness. On net, prime-age male participation has trended downward steadily over the 1955-present sample that we use in our recession models, with some tendency to stabilize or edge up during the tight labor markets that have presaged past recessions. The bottom two lines of the table show the same composite recession probabilities from Table 1, but Table 2 also shows the predicted probabilities up to four years out.

Table 2: Probabilities of US recession from medium-term indicators

Indicator	1 year	2 years	3 years	4 years
Historical average unconditional probability	18%	34%	48%	59%
Unemployment rate	31%	52%	69%	80%
Unemployment gap	24%	40%	56%	71%
Compensation growth	28%	48%	64%	75%
Prime-age male labor force participation	35%	55%	71%	81%
Margin difference from cycle peak	45%	65%	79%	88%
Durables and structures share of GDP	21%	35%	49%	61%
Composite probability from medium-term indicators	35%	55%	70%	81%
Composite from near and medium-term indicators	30%	51%	66%	78%

Source: J.P. Morgan. "Historical average unconditional probability" is the historical average probability of a recession starting within a given horizon when beginning in an expansion, unconditional on any data. All other probabilities are based on regression models. Indicators are transformed as follows: compensation growth is difference from 10-year average, prime-age male participation is the difference over three years in the 12-month average, durables and structures share is difference from 10-year average. "Composite probability from medium-term indicators" is the probability from a model based on the first principal component of the indicators in the table. "Composite from near and medium-term indicators" is the probability from a model including the first principal component of our near-term indicators and the first component of the medium-term indicators.

The bottom line of both tables shows our composite 12-month recession probability at 30%, down from a recent high of 36% in August (the previous version of our model had slightly higher probabilities, and is now down to 34% from 39%). As we noted in last week's Data Watch, improvements in the near-term data drove this decline, as auto sales and the business surveys both rebounded from August to September, and initial claims have approached new expansion lows. But the longer-run models in Table 2 are less sensitive to these improvements in the near-term data. They show the probability of recession within two years at around 1/2 and within three years at around 2/3.

Interpreting the models

Of course, the models have no crystal ball that sees the future; they are based only on data from the past. In essence, the medium-run models are driven by the simple historical fact that the United States has rarely managed to stay near full employment for more than a few years before encountering some form of overheating that has led to recession. In past decades, this overheating often took the form of inflationary pressure that induced the Fed to step in with aggressive hikes that caused a recession. In more recent decades of import competition and anchored inflation expectations, however, tight labor markets were slow to produce inflation. Instead they coincided with the growth of unsustainable investment booms, first in high-tech equipment in the late 1990s and then in subprime housing in the mid-2000s.

We note, though, that mainstream economic theory would suggest that the economy should be able to remain at full employment with inflation at target essentially forever. Many models (for example, the Fed's FRB/US model) would forecast that the economy would remain in this happy equilibrium until some exogenous shock came along to disturb it. In these models, the oft-repeated claim that "expansions don't die of old age" certainly holds true.

And we would agree that expansions do not die of old age alone. But the historical record shows that expansions have been likely to die from overheating within a few years of reaching full employment. In a sense, policymakers have never managed to navigate the tradeoffs between tight and loose policy successfully for very long after reaching full employment. We think our models provide a useful description of the historical data in this regard.

Of course, there is always some chance that the future will be different from the past (and we should not forget there are only nine recession observations in our regression sample). In this context, we must ask whether this will be the first time in history that policymakers navigate the economy to full employment and keep it there. On the optimistic side, recent reforms to the financial system could reduce the risk of the next investment boom ending badly. And one would hope that the many volumes of research on central banking produced in recent decades have some chance of improving the conduct of policy.

On the other hand, one could worry that the Federal Reserve currently recognizes risks in only one direction and appears to have forgotten any lessons learned about taking away the punch bowl. It is often argued that the Fed would know how to deal with an overheating economy with a few rate hikes. But we would point out that the Fed has never in its history successfully nudged up the unemployment rate to gently cool the economy without causing a recession. Perhaps this could be the first time. But, on net, we see little reason to be substantially more optimistic than our models would suggest.

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