Big Tree Capital: February Jobs Forecast & Monetary Policy Implications

Rhodes Kirkpatrick

The Situation:

Today, we are faced with an assertion that job growth in February of 300 thousand will be enough to push the Federal Reserve into increasing rate hikes and put significant downward pressure on unemployment. I was made aware that our firm has positioned our portfolio for best case returns in a no rate hike environment. It is troubling to hear that the partners at Big Tree Capital have not anticipated the Federal Reserve making any rate hikes in 2022. I will just cut to the chase that we 100% need to re-adjust our portfolios to include a change in the Primary Federal Funds Rate (the "rate"). In the most recent FOMC meeting, Chairman of the Federal Reserve (Fed) Jerome Powell indicated that the Federal Reserve would pursue rate hikes this year[1]. Our portfolio position bets on no rate hikes; however, we have a guaranteed window between now and the next FOMC meeting in March to re-adjust. Big Tree Capital has no reason to panic. We have a timetable of little over one month to adjust our portfolio, and with our team, I am confident that we can meet that objective. With that being said, we need to focus on how the Fed will direct the path of rate hikes, and like the alarming article indicates, evaluate how fast and how intense the Fed will make that change.

Economic and FOMC Background:

The Federal Reserve has two mandates: price stability and maximum employment. During the onset of the pandemic, we had record job loss, business closure, and widespread human suffering, thus the Federal Reserve made an explicit guarantee that maximum accommodative monetary policy would occur until recovery was consistent and persistent. The Fed proceeded to expand their balance sheet with mostly US Treasury bonds and corporate debt, and the funds rate was held at near zero. Fiscal policy proceeded to intervene and give out stimulus checks, fund payroll protection, invest in COVID needs, and overall, just mitigate disaster. As Powell notes, the strong response of the United States has allowed it the strongest recovery from states around the world (1). With that said, the focus was mostly directed at the maximum employment side of the mandate.

[1] Transcript of Chair Powell's Press Conference -- January 26, 2022 (federalreserve.gov)

There is a traditional view that unemployment and inflation are in opposing tension. Between 1950 through 1990, a strong relationship between wages and inflation was observed by researchers. This relationship is the Phillips Curve (PC) and there were many economists that tried to explain the relationship to no avail. The PC went flat in 1990, where a natural experiment of fast productivity growth and accommodative monetary policy led to two relevant insights. The first, sensed initially by Alan Greenspan (Chair of the Fed at the time), that productivity increases absorb wage pressure on inflation. The second, that inflation after this point happens in bursts with a range of spillover and during/afterwards, wage earners sense and react to it. Between 2015 and 2019, the new insight we learned is that a decade of near zero rates and quantitative easing along with below 4% unemployment could happen without inflation. Essentially, the natural rate of unemployment could be lower than the traditional 4-5%. The Fed has been trying to get back to this golden zone and thus focused heavily on the maximum employment mandate, but unfortunately, we are now seeing inflation from the pandemic era realities. Thus, the Fed is now looking to move on its price stability mandate.

FOMC Meeting Brief:

Jerome Powell was noticeably clear in his language on rate hikes in terms of whether they are happening. He said multiple times that they are coming in March. While Powell refused to explicitly say by how much, he did indicate a sense of urgency that has not been articulated previously by the FOMC and included that they could go farther with rate hikes depending on how inflation and the labor market evolve. The overarching theme of the meeting switched from the labor market to inflation and Powell also stated that there is an amount they can raise rates without harming their maximum employment goal. Therefore, they clearly have a lower bound of necessary action and for us, the risk is on the upside of 25 basis points (a reasonable guess for the coming hike).

Current Situation:

In January, the US economy added 467,000 jobs and November and December 2021 increased gains to 700,000[2]. The key is fitting this into context of our current labor market recovery. Current labor trend growth (the amount that (smoothed out) leads to full employment)

[2] U.S. Jobs Surged by 467,000 in January as Economy Weathered Omicron: WSJ Article

is estimated in a recent economic letter to be between 50,000 to 100,000 jobs[3]. The San Francisco Fed also estimates that the current natural rate of unemployment is 5% (3). Powell clearly stated that the Fed will be “nimble” on its decision on the size of rate hikes. Considering job growth could still come down massively from where it has been to meet trend growth and the current unemployment rate lower than the natural, it is safe to say we need to be ready to move on the upside risk to rate hikes. On face value, the number of jobs added seems like a lot, however, taking a closer look, the Establishment Survey (ES) only counts people who are presently working. Many people have no paid sick time and thus are not counted. Considering that the Omicron strain has made millions of Americans miss work in the last month, there is still probably a massive upside number coming in the next month or two. The unemployment rate comes from the Household Survey (HS), thus that claim in the article is somewhat misleading.

Even though the extrapolation of ES to HS is misguided, is there a substantial pressure on inflation that the Fed will react to? Using our guiding insights discussed previously, it would be important to point out that productivity growth is below wage growth at a high 5.7% (2). In addition, wage growth has spread from the bottom income to all workers. Along with there being sixty workers for 100 job openings (2), the labor market is clearly very hot making space for an aggressive rate hike, and an inflationary cycle could occur with inflation and wage growth both starting to spill over throughout the economy.

Methodology:

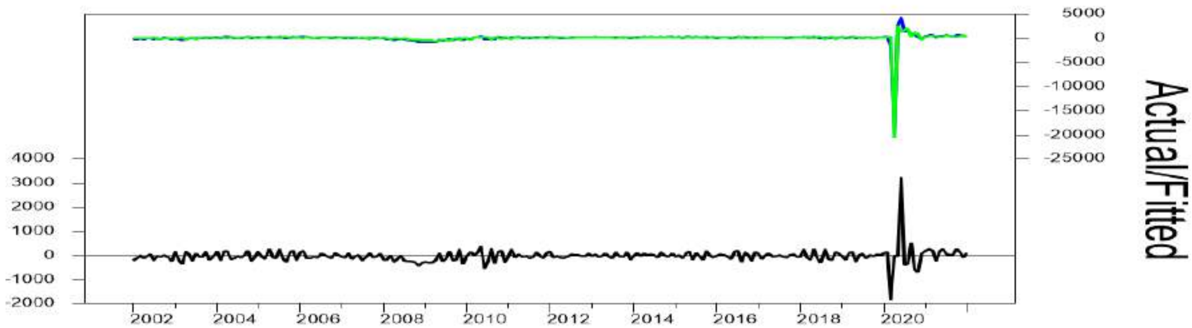
To look at the relationship between the current labor market and the Fed’s interest rate decision, we will start by looking at our own employment forecast. We will compare that to the perceived room for slack from trend employment (the amount that leads to the natural rate of unemployment) and then look at the confidence interval around that to confirm weather conditions will continue such that the Federal Reserve will be aggressive, post-March meeting. It will also give us a general feel for the Fed’s rate hike path. Job increases to the upside of 300,000 in the February report might cause a more aggressive initial response from the Fed, thus we will focus on that probability. Lastly, we will use this forecast and answers to the questions above to connect with the theory and current situation the Fed faces to see what the relationship is likely to look like.

---

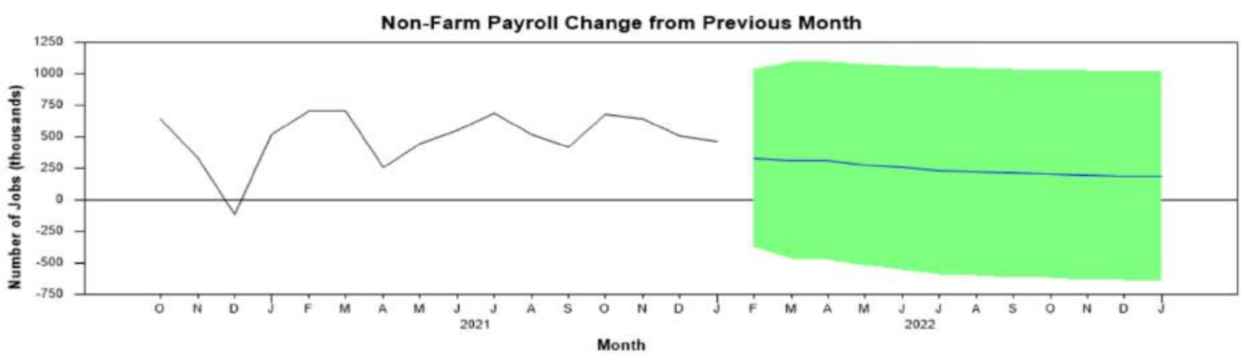
[3] Federal Reserve Bank of San Francisco | Trend Job Growth: Where’s Normal? (frbsf.org)

Results:

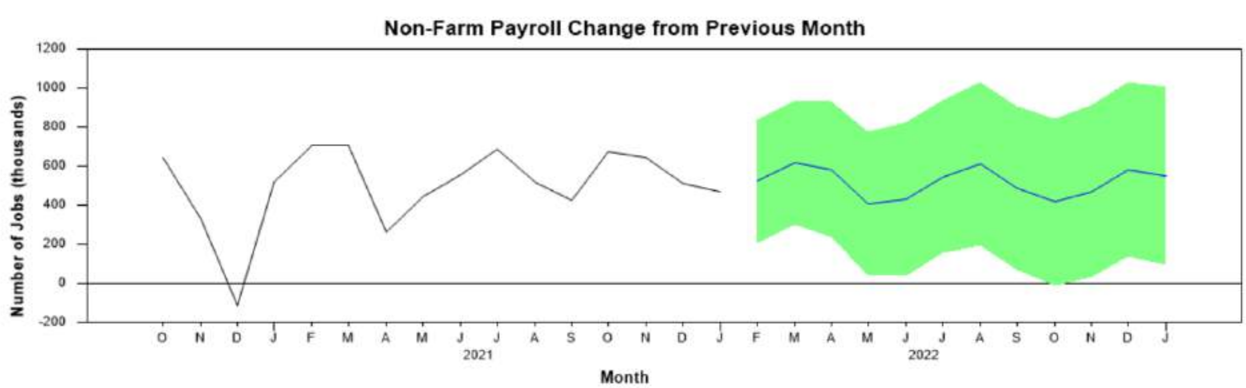
I have created a (5,2) ARMA model based upon box-Jenkins and intuition, which yields very small average error.



Proportionally the Pandemic swings through this off scale, but the data is necessary for the most accurate forecast possible. Below you will find our model estimates for the next year.



February Comes in at around 300,000 jobs added. The Confidence interval has the US economy ranging from -300,000 to 1,000,000. The variance from the pandemic makes it really difficult to have a confidence interval that is convincing. If I change the model to only take data from after the Pandemic, we end up with this.



The probability that job growth will exceed 300 thousand from each model is (first then second).

```
probability that actual outcome is equal to or more than 300k       0.53275

probability that actual outcome is equal to or more than 300k       0.91605
```

Conclusion:

We are faced with a lot of uncertainty in forecasting at the moment. If we include the Pandemic, there isn't an easy way for the model to understand the context and thus we get less variance in the forecast than the actual past year and a half of data. If we go after, the model only sees the really high job growth without realizing that there was a massive gap to fill in the first place. Our first model is almost certainly more accurate; however, the confidence interval is wider than the second and thus our probability calculations are going to be a little off. The most important result is this one below. This is the probability that jobs are above 100 thousand in January 2023, yielded from the first model where we should expect the shock to die down.

```
probability that actual outcome is equal to or more than 100k       0.58008
```

What our model can tell us is that there will probably be a very hot job market a year from now on the current trajectory. The Federal Reserve is looking at the entire situation, and because it seems there is inflationary pressure from multiple sources, alarm bells are going off in their minds. In addition, our model projects strong job growth into next year, thus the Federal Reserve is going to have a large space to raise interest rates before it affects the labor market. We at Big Tree Capital must act from this realization and expect multiple rate hikes throughout the year. As the situation evolves, we can add in new Household Survey (unemployment rate) data to look at its sensitivity to the rate hikes. Like I said previously, in the short-run, the Establishment Survey (ES) isn't the best source to go on with the current COVID wave, however, if the ES keeps running over trend-growth in a couple months, we will see the Fed raise rates even more aggressively. I would implore the partners here at Big Tree Capital to think about and expect multiple rate hikes. We should adjust our portfolios for a 25 basis point hike now since the Fed also has much uncertainty because of the nature of the ES and thus is likely to act slowly at present. However, our yearlong projections show this won't cease and thus we need to be ready to re-adjust multiple times and if we are making a wager on the number of rate hikes it is going to be at least 4 (of 25 basis point) given the space the Fed has between its mandates.