# Recruit Holdings Webinar: Indeed Hiring Lab - Labor Market Insights December 15, 2023

**Shen:** Hello, everyone. Good morning. Welcome to the Recruit Holdings' Webinar, Indeed Hiring Lab - Labor Market Insights.

I'm Mizuho Shen, group manager of Investor Relations and Public Relations and joining me today is Svenja Gudell, a Chief Economist of Indeed Hiring Lab.

Thank you Svenja, for joining us today.

Svenja: Thanks for having me today. It's a pleasure to be here.

**Shen:** Thank you. We have about 30 mins presentation from Svenja regarding the latest macro environment and labor market trends. Then, proceeds to the QA session with sell-side analysts.

For the reminder, Indeed Hiring Lab is an independent entity from Indeed which operates the business, so Svenja will not be talking about business performance nor forecasts.

Instead, she will walk us through her insight from the labor market related data we have, and I'd like our participants to focus their questions on general macro trends and outlook, not the business performance.

Without further ado, everyone, please welcome Svenja Gudell. Thank you Svenja, you can show your screen

### Slide 1

**Svenja:** Perfect. Thank you very much again for having me on today. It's a pleasure to be able to talk to all of you despite the early morning time in Japan.

Actually I should introduce myself just a little bit. I'm Svenja Gudell, a chief economist for Indeed. I was actually almost my two year anniversary with Indeed it's a couple more days here so it's nice to be here for the last two years hopefully to many more. Before I enjoy Indeed I was at Zillow. I was the chief economist there and did a lot of analysis around housing and a little bit in the labor market. And I also previously was at the Federal Reserve Bank of New York and their research departments and did a little bit of consulting along the way as well in the litigation space. So have seen the labor market and the general economy from several sides and hopefully, that will show up in some of these slides we look at the labor market from different angles today. So with that, let me jump into what will be a quick overview of the US labor market as well as a global snapshot of what some of the other markets are doing right now.

### Slide 2

So first and foremost, I lead the Hiring Lab, which is our name for Indeed's economic research team and if you're curious to find out more what we do or what our research is, please make sure to check out <u>hiringlab.org</u> You can find all of our research there. We actually cover eight different countries with our research. And you can see there's a drop down at the top of the site that lets you choose which country you want to look at. And perhaps most importantly, we also make all of our data available. So if you're curious about the job postings index that we have you can pull some of that data down. We have our wage tracker available online and among various other products that we release on a regular cadence. So encourage all of you to check that site out.

### Slide 3

So without further ado, let's kind of do it. Let's dive into the presentation. And I want to ground us all on some key takeaways and a few at the end of hour together you have we want to know what's the most important takeaway. I think these six points really boil it down nicely. Number one, demand for new hires continues to

moderate across the board, but it's still overall quite robust as we will see. Job Postings remain strong, even though some areas have actually pulled back quite dramatically and others have stayed quite resilient. So I think my point really here is that you want to look under the hood and not just at averages. Long term, structural factors should hold labor force participation down, but cyclical strength has brought in a lot of prime age workers. So you're looking at what's currently happening. We're seeing a lot more people in the labor market right now participating. However, we do not expect that to hold long term and we will actually encounter relatively tight markets for the foreseeable future as we exit this current cycle.

The great resignation has ended and it has been over for quite a few months, workers are no longer quitting their jobs at the elevated rates we had seen during the pandemic and we'll dive into some of that more. Posted wages are slowing down substantially and this of course goes along with weakening demand and increased supply or economics 101 still holds.

And with those slowing wage increases, we see inflation is also slowing along the way. So we'll look at that in more detail. All of these things taken together means that a soft landing of the US looks quite possible at this point and more and more evidence pointing in that direction. However, my call would be in order for us to actually stick the landing quite well, layoffs need to stay low. So this is something we do look at and consider much for the future.

Last but not least, the hiring lab team has done quite a bit of research into AI and particularly generative AI. And we think that there's tremendous potential on the horizon with this technology. And we do think every single job out there will be impacted to varying degrees, and we'll dive a little bit more into that.

### Slide 4

So with that, let's actually take a look at demand for new workers.

### Slide 5

This is, everyone has their favorite way of looking at this. This is one of the ways we look at if a market is tight just to get a really nice overview. You're looking here for the United States, the number of job openings per unemployed worker, and that number is right around 1.3 right now. And that means you actually have 1.3 jobs for every unemployed worker. So still tight overall, it's slightly higher, roughly about the same amount as was pre-pandemic that level of looked at the number was 1.2 for that ratio. So we're roughly back to pre pandemic levels, which is still a relatively tight market because entering the pandemic back in late 2019, early 2020 We actually had a fairly tight labor market as well, so we've gotten back there.

### Slide 6

And to give you further sense of what demand overall is doing. We're seeing that job postings have continued to moderate so what you're looking at here is Indeed job postings index and the blue line total postings, index back to February of 2020. And the pink line that's much more volatile is a new posting. So what's actually being posted and coming in new also indexed back to February 1 2020 at 100. And you can see very nicely the initial shock of the pandemic and coming out of that initial shock, all throughout the pandemic we peaked in early 2022 in terms of demand, and since then have been on this slow glide path down to slower demand, although I'd like to point out that the blue line right there is right around 125, which means we're actually 100 and we're actually 25% above pre-pandemic levels with this particular job postings index. So that's worth pointing out we still have very strong demand for labor.

### Slide 7

Now as promised, looking under the hood a little bit. It's worth noting that there are different sectors in the economy are reacting quite differently. And as we're focusing on the US right here, I pulled some of the traditional office job sectors to highlight. The blue line is banking and finance, pink human resources. yellow marketing, and green software development. I'll use the poster child of boom-and-bust for a moment, which is software development. So this relatively small sector of the economy of course has an outsized impact on all the headlines we've seen throughout the last year in the news. And we saw the distinct buildup in labor force in these tech sectors, as we saw postings increasing to new highs during 2022 and then the sharp drop off as

we start to exit the pandemic, and businesses started to right size. This showed up in our data of course and now we're actually below pre-pandemic levels in terms of demand for software development, which is one of the proxies for our tech jobs

Along the way worth pointing out that perhaps not surprisingly, human resources jobs have seen a very similar trajectory of running up and then slowing down a whole bunch simply because as you are hiring fewer people, you need less support staff to actually empower that type of behavior so we're seeing jobs on that front also start to react accordingly and postings come down.

### Slide 8

On the flip side, we're seeing that US job postings are holding up a lot better in many in person sectors. So here you can see childcare which is an interesting one and food prep and service are pink, yellow is nursing and green is retail. A lot of particularly health care type of care type jobs show this particular pattern where they peaked and have held relatively steady to their peak levels at this point. And their trajectory looks quite different from some of the sectors we saw earlier. So really quite strong demand still here. And I should also mention that this shows up in wages as well. So we're seeing different levels of wage growth according to different sectors. but really quite mix of if you're talking some of these in person sectors versus some of the more traditional office sectors.

In terms of a look out towards the future, I think it's also worth pointing out we did a study together with Glassdoor late last year. We looked at very long term trends that we expect to hold in the really world economy. And one of our outcomes was that we expect a relatively tight labor market, particularly with health care being a sector that's going to have high demand with an aging workforce. I encourage you all to take a look at that. Really interesting age patterns, which we'll take a look at a little bit as well. But we're starting to see that demand for health care staying strong, simply because we have more older people that require will potentially require care.

### Slide 9

Of course, the index that I just show you here the blue line Indeed job postings index is something that we produce various granularities and levels and countries. And so one of the things we do is regularly benchmark our data so we take a look at how does it compare to official series that we can find by the government. In the US case we compare the job postings index to JOLTS which is the job openings and labor turnover survey, which just came out earlier in December with October data.

And you can see that we track quite nicely if we index them to the same point roughly similar behaviors. And actually, I'd say that with every restatement we've gotten a little bit closer so that's good news for the Indeed data. You'll see that the pink line the JOLTS data, here's a little bit more jaggedy and more volatile, that has to do with the fact that the survey does get restated and it tends to be a bit more volatile versus the job postings index we have which is millions of observations underlying it, and is more timely and actually gives you a little bit extra information in terms of what you're able to get from looking at that versus the JOLTS data.

### Slide 10

So with that, let me turn and turn to the labor supply and retention.

### Slide 11

Noteworthy here's what you're looking at as the labor force participation for the prime age workforce, meaning 25 to 54 year olds. And the good news is that after the initial shock of the pandemic, where we saw a lot of exits from the labor force, we have since ramped up and we're actually beyond pre pandemic levels at this point. So a lot more people in the labor force now compared to even a year ago. And there are a bunch of different factors that really impacted the growth of that we see in the labor force participation right here.

### Slide 12

Particularly some groups have impacted this a lot more. We saw that, for example, disabled workers were able to join the workforce in much larger numbers driven in part by remote work, so not having to commute into work, gave a lot of those workers the ability to join the workforce. So that has been another positive aspect of remote work. Women also after the initial childcare shock that we experienced, have been able to join in higher rates which you can see right here compared to the rates of men joining for prime age participation.

# Slide 13

And definitely worth noting, immigration has been a large driving factor at this point. We have roughly one in five workers in the US labor force that is foreign born. A lot of that growth was catch up growth during the last two years as immigration was relatively low and has since regained some of that momentum or roughly back on track at this point. And so a lot of growth in those last two years coming from the immigration side, as well.

# Slide 14

All of that to say, we're currently experiencing the middle of this graph, which is the current cycle that we're in we're seeing a relatively large push into the labor supply. And this is the labor force participation rate and blue coming from BLS (Bureau of Labor Statistics), and pink, this is our not our but it's the projection from the Congressional Budget Office in the United States. And you can see that we're going to exit the cycle in terms of labor force participation soon where we actually go back to lower participation rates as the general population in the US continues to age. And that's going to put long term structural pressure on the labor force participation rate.

This is not unique to the US. Many other countries have also experienced this and that overall will drive for some of the demographic changes that we will experience in the labor market.

# Slide 15

Now, I did think it was worth calling this particular graph out the US quit rates. And as I mentioned at the outset, we are back to pre pandemic levels in terms of what the quitting behavior slides for US workers. This is quits as a percentage of employment. And interestingly enough, that of course means you have less churn in the labor market and one of the questions that you frequently get is, how can churn be down or quits in general people switching jobs? Why we have just so many job seekers out there looking for jobs and more today than we did in a year ago?

Well, all that is driven by what we just talked about labor force participation. So in the absolute, we just have more workers out there looking for a job, however fewer of them are in a current job looking to quit that job. So that's worth denoting. But if more people have entered the workforce, they're of course looking to find a job. So as the labor force participation rate has steadily increased, we're seeing that new entrants looking for a position. Of course, a lot of different factors contribute to why the quits rate is down.

One of the big ones is that the grass perhaps is greener on the other side. But it doesn't come with the cash bonus or the high wage increases that it used to come with just a year ago. So at this point, we're seeing that wages have come down significantly. We'll take a look at that in a moment.

Or wage increases I should say have come down significantly. And that means the likelihood of you getting a very large raise when switching from one job to the next is not a given at this point and we're seeing that different starts to flatten out. And then there's a lot of uncertainty that has been associated with our current economic cycle. And that means people are less likely to quit what they have and search for something new. And therefore you will see that preps people are looking but they're not acting on it. They're not actually quitting given economic uncertainty.

# Slide 16

So with that, that's my tee up for wage growth. Of course we put that demand we've looked at supply make sense to actually look at wage growth along the way.

And you can see that wage growth has slowed significantly. Big call out we're not talking absolute wages. So we're not seeing falling wages that usually doesn't happen. They're quite sticky, but the growth at which wages are the growth itself is slowing quite a bit. So we came down from a high of nearly 10% annual growth down to now 4% year over year growth and US wages. And so that was quite the strong deceleration, but makes sense in terms of having more supply out there in the labor market and slightly less demand for workers. So all that is in line with where we think actually.

### Slide 18

We of course just like with the job postings index, we also benchmark this series and since we look at posted wages, you'll see that this the pink line, which is the Indeed wage tracker, is roughly six months ahead of the Atlanta Fed wage growth tracker for job switchers. So that particular index looks at Job switchers and old track for example, a nurse that used to earn a certain amount that switches a job into perhaps a what, whatever an x ray technician job or something like that, and then measures how much that wage increase was from one job to the next.

The difference for us is we keep the job the same. So we measure from nurse to nurse data scientists to data scientists, whatever it is, we don't follow the same person, but we follow the same job. And we are posted versus actual jobs, which is why we lead and of course you can see from posted wages to actual switching wages to then what are the existing wages doing there's a transition that happens and a trickling through, effect to eventually see what people earn as they wage increases they experience as they don't switch their jobs. So really, really very unique leading data on this then.

### Slide 19

Putting the puzzle pieces together here, you'll see the Indeed wage tracker in blue and inflation in pink. And the good news is that a posted wages are growing faster than prices. I say good news, of course for consumers and we had a period of time where people were, the purchasing power was simply down because inflation was growing at a faster rate than their wages were in that hits the pressure on pockets quite a bit at this point, we're still seeing wages grow slightly faster than inflation.

All the while both are tracking and coming down. So this is good news, particularly on the inflation side. I think a lot of economists were surprised at how fast inflation has actually decelerated at this point. It's good news for the overall economic picture. I think a lot of central banks across the world are watching this, as many of them have targets in the US we have a 2% harder for the inflation rates.

And the Fed really tries to obviously have its actions be in line to reduce inflation while not having unemployment peak that dual mandate.

### Slide 20

One of the things that I think that is unique to Indeed that we like to look out along the way is we of course follow wages with our index, but we also like to look at other parts of compensation that are not as easily measurable. That is, in this case, the signing bonus that we do track, that's this pink line right here.

And we've indexed them and pulled them together to be able to compare them quite nicely. And we see that signing bonuses have also declined slightly flattened out though, compared to the stronger deceleration that we're seeing wage growth front. So that has everything to do with a mix of jobs that actually get a signing bonus. And one of the sectors that uses signing bonuses quite a bit is health care, particularly nursing. And so if you remember a few slides back we've looked at job postings for for nurses.

The demand there was still quite high, still a relatively tight market for nurses. And so that all makes sense that we here see another piece of evidence that signing bonuses are also staying elevated and particularly because we see such a large fraction of signing bonuses going towards nurses, and that explains a little bit of that data and just gives you another data point to solidify really what's going on here.

So take all of this information together. And what we make of a potential soft landing.

# Slide 22

It's obviously has been a strong talking point throughout 2023 will remain something we watch as we enter 2024. And the story, at least for me personally, has really been around consumption and how strong consumption has stayed and held up quite well. So during the pandemic, we stopped consuming a lot of services we switched into a lot of goods. You can kind of see that really strong spike up. I would say that we all ,myself, ordered our treadmills and breadmakers, standing desks or whatever else it was we consumed a lot of goods. But we never saw that really fall off a cliff and we've sustained a lot of strong consumption and added services to that mix. so still spending a fair bit of money and that is of course sustain the overall economy and the labor market as both goods and services require labor to actually produce and offer.

# Slide 23

And one of the things we pay attention to of course, is that together with that consumption, we have the data point that we're starting to see postings come down and level out. Meaning employers are making the choice to no longer hire as many people but the trick is to have that happen. We don't see large layoffs. We saw a fair amount of activity on the tech side again, a fairly small sector, sector of the overall economy. And here you see US layoffs across time, and they remain incredibly low by historical standards and really lower than we've saw pre-pandemic. And that is really what we want to be able to stick the soft landing. We don't want to have unemployment start to significantly increase as the layoffs increase along the way. So that's worth paying attention to.

# Slide 24

The last perhaps puzzle piece in the soft landing is what is inflation going to do going forward. We already saw a chart on inflation here you can kind of see it as well.

And both for the CPI and the PCE and both have been coming down quite strongly. We're within spitting distance of the target at this point. This is also good news and explains whether the Fed is currently or not increasing rates. Further, and most likely, we'll be looking at rate cuts this year, which of course also showing up in the stock market.

# Slide 25

So with that, let me quickly turn to some global trends that are worth pointing out.

# Slide 26

You saw what we looked at for the US in terms of job postings trends, very similar behavior holds if you're looking at here I picked Australia, Canada, Germany, UK and US.

And you can see that everyone follows a very similar overall behavior where we peaked oftentimes right around at the beginning of 2022 and have since then, decelerated in terms of demand for labor. However, everyone is still above pre-pandemic levels.

# Slide 27

Now worth pointing out that this holds in the US as well, by the way, I didn't include that chart. But interestingly enough, if you look at economic sentiment or business sentiment in general, versus employment expectations, there's a little bit of a disconnect there in terms of people feeling not so worried about the overall economy. Or their outlook in the future. But they're actually feeling okay about the labor market and their own jobs. And of course, a lot of that is driven by relatively high inflation, particularly in some countries like the UK. And so not very unique as the US is also going through that, but still something to be aware of.

And one of the data points that also feeds into that is the fact that hiring challenges still persist even at this point, even though we've come down in terms of demand. We see across these different countries, companies are still reporting labor shortages, and in general, the tightness that is limiting their production levels. And so that has not come down to pre-pandemic levels and staying still elevated.

### Slide 29

Now, all of this translates into a similar picture for wages as well. When you're the US numbers in the yellow here. The Euro area's whole is also experiencing a very similar, slightly less extreme case but also that ramp up in wage growth. Now decelerating wage growth, hitting those current numbers 3.7. The UK a little bit more of an outlier is they're still experiencing cost of living crisis, it's gotten better, that picture has improved, but stronger wages on the front also mixed in with Brexit and immigration laws on that side.

### Slide 30

And of course, speaking of new new immigration laws, one of the things that we were able to do with our data and Indeed is we are able to take a look at just who is searching for a job outside of their country. And so here you see foreign searches as a share of all searches for a set of different countries. And we're really seeing that foreign jobseeker interest has started to rebound.

And on a different scale are Australia and Canada, which we've seen a lot more in migration, And that shows up in the search data. The US relatively flat at this point. we're seeing strong pick-up and now the UK as well as the EU in terms of having more searches. they're coming from other countries, and Japan remains relatively flat in terms of seeing searches in which also is mirrored, of course on the immigration side when you start to look at the immigration numbers.

### Slide 31

Now, staying on Japan for a moment, that is, of course going to be a tricky aspect is the Japanese population is expected to continue to decline and further age. As we go out into the future. You see trends from 2020 up to 2070. And the number of older citizens is really staying the same relatively steady so that's the pink bulk there while the overall population is shrinking, so their shares increasing along the way, and prime age participation in this case, looking at 15 to 64 is shrinking as well. So very acute case of this aging population, which will force a lot of for have a lot of impact on that labor market and it's already starting to have that impact quite a bit.

### Slide 32

You can see that impact in these numbers right here. So this is senior employment, which continues to increase and particularly noteworthy is this yellow line that is crossed over the 10% threshold here. So looking at people that are age 75 and older, large portion are still working here. And we're seeing increased trends for all senior employment. The US has not reached that level yet. but as the US population continues to age we also expect some of these numbers to increase.

### Slide 33

My last chart for Japan that I thought would be worth pointing out as we look at that labor market we have an economist on the ground there from the Indeed side. We're seeing still stagnant but now a growing potential of jobs switching and what you're looking at here is the pink bars are actual jobs switchers. However, the blue bars are job seekers wishing to change jobs. and you can see, particularly in the last few years here, there's been an increase. So potential for increased, dynamic or increased mobility in the job market there.

### Slide 34

So for my last for set of slides, I wanted to quickly take a look at generative AI.

It's such a talked about topic, everyone clearly is very into trying to figure out new information on it. I'd say it's very top of mind for us, particularly it's a technology that is potentially productivity enhancing or strongly increasing. And so, as we look at an aging workforce, this could be a potential aid as we make up the workers that are left more productive in terms of their output.

And so one of the first things we wanted to know is okay, how many people are actually used. So, into job postings, how many people are being hired for a Gen AI type job, or activity? And then are there already a bunch of postings that require genitive AI in terms of tooling that you should use on the job? So this is a mix of jobs that could be in marketing because you're supposed to use things like Chat GPT? Or it could be that you're a data scientist and you're developing the algorithm that goes into a large language model or something like that.

So you can see this really nice hockey stick phenomenon here incredible growth across different countries, in terms of how many job postings are requiring these types of skills. but don't be fooled. The Y axis is correct on this front. This is less than a percent. So while we see extreme growth, it's often for tiny, tiny base. So we still see very little impact at this point on the overall labor market, with the potential to have immense impact, down the road.

### Slide 36

One of the things we really wanted to know is what jobs will be impacted by generative AI. And we did a two stage research approach for this. First we looked at how well Gen AI actually performs different skills, And we rated them on this continuum of poor, fair, good and excellent so some skills can be done at a fair level and some skills can be done at an excellent level by Gen AI. And then of course to get the connection from skills to jobs, we actually looked at Indeed, extensive data set to be able to see, okay, every job is a collection of skills, how are these jobs then potentially exposed to generative AI, given its ability to do these skills.

### Slide 37

This is the outcome of that research, and we saw that actually, less than 20% of the jobs face a higher potential exposure to Gen AI. What does that mean? Well, it means that 80% or more of the skills needed to perform that job could be done at a good or excellent level by Gen AI. And there are only roughly 20% of those jobs out there that had that high exposure to Gen AI. The bulk of jobs cannot be done in a very well fashion or in a good fashion. By that rating scheme by Gen AI. And so our conclusion was while very only one in five jobs have this very high exposure. All jobs will potentially be impacted by genitive AI just to very varying degrees. That takeaway also holds in other countries.

### Slide 38

This data that you saw right here was the United States. This data is for Australia, Canada, Germany and the UK. Worth calling out that jobs in Germany face highest potential exposure to Gen AI, you can see that 29% there versus some of these other countries, but the overall story still remains the same.

### Slide 39

And then back to the US, looking at, what does it actually mean for different sectors, you show me the list, if you will. We see that driving, wellness, healthcare, childcare, those are the jobs less likely to be heavily impacted, at least with the current technology, as Gen AI is able to not perform a lot of the skills necessary for those jobs. Whereas if you're looking at software development, IT operations mathematics, IT information design and documentation, those jobs are much more heavily or potentially heavily impacted, and will be much more exposed to Gen AI on that front. So a bit of a turnaround list, I think, compared to what we've seen historically around automation.

If some of that has peaked your interest, I'll stop there. So you can see I get excited to talking about this stuff any day, but I'm happy to answer any questions if you want to dive in more on any of the stuff we have a whole AI work report series on our sites along with all the other data, happy to answer any questions that you want might have. Thank you.

**Shen:** Thank you very much Svenja. Now let's move on to Q&A session. Please press the raise hand button on the Zoom if you have any questions, and I unmute before speaking. So we take one question and one follow up per time. So let's wait for the question and maybe we'll be waiting, quick one from me to start up with.

So I hear a lot of investor asking that we have lots of data I'm sure you got Indeed data, but is there any other like a statistic data macro data that you take a look at as a leading indicator for the checking the labor market and also we talked about the JOLTS number in your slide, we're sure JOLTS are a bit choppy but our data is more stable, but how do you normally analyze the JOLTS data every month? Those are like a common question that I receive from investors.

**Svenja:** Those are excellent questions. I'll enter the first one first in terms of what data we look at. And I think the data that I just walked through is really the data we look at on a regular basis and we have a regular chart book that we produce in the US and also a not quite so regular chart book for other countries that we come up with that looks at a lot of these indicators.

And if I had to choose some of the ones that are particularly important to us are the job postings index that gives us such a nice, almost now cast, if you will, of the JOLTS numbers. Really important to look at to gauge demand. We of course look at wages quite closely and then as I said, at the very moment we look at layoffs quite a bit, just because I think that will give us a lot of information around what's the likelihood of that softlanding in the US. Those are the some of the things we look at longer term we're starting to dig-in more in the immigration front and looking at some of that data.

So it really depends on the question of course you're wanting to answer and we look try to look at as much data as we possibly can to try to triangulate our readouts, but the ones I just covered are really good ones to look at. And then what do we do with JOLTS, well, we definitely look at it as soon as the data comes out.

We have our regular commentary, by our economist Nick Bunker, so if you're curious to see what the latest and greatest is we post almost immediately after the data is out, we post the response to that new data and what it means and what it means for the labor market and our overall narrative. So if you're curious to find out more on that friends we we have that data available in the commentary out shortly after it's released every single month by the BLS.

**Shen:** Thank you very much. We are still waiting for people to register the questions. So keep them a little moment. And maybe we can talk about the latest report that your team put out for the labor market outlook for the next year.

**Svenja:** Yeah, sure. So what we did is we put together the hiring trends reports for the US as well as a bunch of other countries. We still have a few to be released into the new year here.

And it really focused on what we believe some of the driving trends will be next year and what we're watching, and of course, there are a bunch of different things that we're paying very close attention to. And this comes on the heels of a report that we did at the end of last year, which was adjoined to Glassdoor and Indeed report where we combined our data to look at very long term trends.

And we found some really interesting stuff. Those trends still hold and they haven't gone away. But for this report that we ran here, we really wanted to take a look at what is actually happening in 2024. What are some of those short term, perhaps within cycle moments that are coming up right now?

The big one of course being what is happening with wages, what is happening with a soft landing, what is happening with inflation. So some of the themes I just talked to are actually straight from outlook, and you've inadvertently got no look at our outlook, via that presentation. And we talked about the data that we look at to be able to analyze what's important to see where things might be heading. I think it's noteworthy. In summary,

to say that the market is normalizing. We were hit by this ginormous shock of a pandemic and then we spiked and we went to new highs and we've come back down.

But the underlying structural impacts are still very visible in the current scenario where labor demand has cooled quite a bit from its piece, but it's still tight and we're still above pre pandemic levels. so we're staying with the long term trends but are paying attention to how much more cooling movies will we see on the demand side. How quickly are our wages going to come down? We'll probably hit pre pandemic levels sometime in spring of 2024, if we stay with the current pace.

Inflation will come down much faster. What movements are we going to see there? Like I said, big one, we're watching layoffs. You need that one to stay low and are to stick a soft landing, which is really that Goldilocks moment that the Fed is hoping for where you have low inflation, you've cooled the economy just enough probably to impact future hiring, but not cause massive layoffs.

So those are all the things we're paying attention to. Some of the other countries we looked at generative AI, and what's happening there and of course immigration is also one of the things we looked at heavily in order to kind of engage what's happening on the ground with labor supply.

**Shen:** Thank you very much for that. And how about, you show us a very significant decline for the certain sectors, number the job posting like software engineering, and all the other categories where the average number is still above pre-pandemic. And some of those software engineer, job number declined, it's pretty much a lot of it, probably is a normalizing from the really unique environment from the corona(COVID-19), but is there any part attributing due to this Gen AI, or chat GPT the hockey stick chart that you show, is there any connection?

**Svenja:** It's an excellent question. In short, I would say no, I don't think we're seeing the full impact of that yet. And let me unpack that a little bit more because I do think it's worth spending a minute on it.

In general, we get asked a lot, hey, there's new technologies on the horizon, do you see impacts on the labor market? And I think it's just too early to really know because in order to see full impact and full productivity impacts, which is right, embedded in that question, of course, the expectation is, as you use this technology, you'll become more productive, which means you'll have to hire fewer people for the same amount of output, does that show up in, for example, postings.

And I think it's just too soon to tell because you have to get really good at using that technology and actually applying it to your use case. So it's still early days. Now, having said that, we are carefully watching. And we're trying to get a sense of what is really happening in these sectors.

And for example, if you're a copy editor, or some program like chat GPT could really come in handy performing that particular task. We are watching that as a category. Now I should say copy editors in general have started to come down much, a lot of other marketing jobs have started to decrease coming out of the highs of the pandemic.

And so it's hard to suss out, is this AI driven or is this just general economic movements that we're seeing. And so we're trying, we have a project going, what we're trying to see, is this over indexing or under indexing compared to trend. And so we're keeping an eye on that.

But in general, I'd say it's too early to tell. And I would say in the long run, it's not at all obvious to me that even if we increase productivity, that means we decrease jobs. Because you could reinvest some of that, right. You could say, hey, my labor costs have come down because I'm now using this new technology. However, I'm going to reinvest them. I probably need more people for that.

So that could happen. And historically, it's also not obvious that at certain sectors have, as we've gotten more productive, we haven't always seen the number of jobs decrease. And tech is a great example of that. right? I think overall tech jobs have increased over the years, even though I'd say overall with the advent of the computer and additional technologies have rolled in, we've gotten way more productive at crunching data,

analyzing it, and pulling everything together. So while we have a lot of this productivity enhancing technology, it is not impacted jobs in a neat downward fashion and really is quite the mix of impacts along the way there.

**Shen:** And the last question from me is the AI report that you put it out, you categorize it, highly impacted moderate impact, less impact. How did you like major impacts?

**Svenja:** Oh, yes. This is a fun story. So, when we set out to do this research, we had seen a lot of surveys at the time, a lot of people said, hey, we asked people to say, what is your opinion of how much is AI going to impact your job? And honestly, who knows? Like I wouldn't know off the top of my head, how much AI is going to impact certain jobs.

So I was very skeptical a lot of times, these surveys in terms of outputs. And so we really wanted to have more quantitative results and really be fairly data driven. So what we did is we actually asked chat GPT to evaluate these skills for us, which I get an initial chuckle when I tell people that story, because it's the kind of thing like you're ready outsourcing your work to chat GPT, which we promised we weren't trying to do.

But we figured this is a powerful program, who better to tell us how good it is at certain skills than that program itself. And as we embarked on that journey, we found it was fairly complicated to actually get good answers. So we did what we call expert interviews with chat GPT, where we would say, for example, hey, chat GPT, how good are you at cooking?

And you really have to be quite good at phrasing that question. Because we would get an answer like, oh, I'm very good at cooking, and you'd be like, really? Are you going to chop my carrots for me? I don't think so. And really, chat GPT could recommend certain flavor profiles or combinations of full recipes, help with menu preparation in general.

A lot of the operations that craps go into having a larger cooking process at a restaurant, but the actual cooking itself does not get done with chat GPT. So you really had to suss that out. And we did extensive probing, questioning and benchmarking eventually over our answers with other data that we had to be able to then arrive at the scale ranging from poor over fair good to excellent in terms of how well chat GPT will be able to perform a particular skill.

And we use the Indeed skill taxonomy. We fed that into chat GPT to get answers so we covered over 2,500 skills and then looked at, actually I want to say it was like a period of a year and a half of jobs and their skill mix us to be able to millions of jobs underlying all of that to be able to find out what's different combination of skills go into those jobs, and therefore impact those jobs, to varying degrees.

**Shen:** Thank you very much. I guess we are running out of time. So I am gonna stop here. And this concludes today's webinar. As you can see this a lot of exciting and very interesting reports, or it's coming out from the Indeed Hiring Lab, so please stay tuned. So the recording of this webinar presentation and transcript will be available on our IR website shortly after the call. So thank you, Svenja for all your time, your explanation, and everybody, thank you so much for joining us today.

**Svenja:** Thank you for the opportunity.

Shen: Thank you.

[END]

### Forward-Looking Statements

This document contains forward-looking statements, which reflect the Company's assumptions and outlook for the future and estimates based on information available to the Company and the Company's plans and expectations as of the date of this document or other date indicated. There can be no assurance that the relevant forecasts and other forward-looking statements will be achieved.

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