The Brookings Institution

Brookings Cafeteria Podcast:

Putting Your Degree to Work

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DEWS: Welcome to the Brookings cafeteria the podcast about ideas and the experts who have them. I'm Fred do we know that having a college degree is helpful relative to not having in today's labor market. But to all college experiences have the same benefits. That's a question explored and new research from the Hamilton Project at Brookings that looks at students career paths after college.

I'm joined in the studio today by one of the researchers Ryan Nunn He's a fellow in economic studies and policy director for the Hamilton Project. He were previously in the Office of Economic Policy at the U.S. Treasury Department Stay tune during the interview for another installment of ask an expert in which a listener asks How effective is the U.S. tax system. And after the interview listen for a new Metro Lens segment about inclusive growth in cities trying to make sense of a disrupted world in Washington's take on it. Subscribe to Susan Glasser’s new podcast the global Politico to hear from the likes of former secretaries of state Jim Baker and Condoleezza Rice. Administration insiders and Democratic leaders take a road trip to Iraq or the heart of the European resistance. Our own Strobe Talbott president of Brookings was featured on this week's episode talking about Russia and Vladimir Putin. New episodes of the global Politico come out every Monday morning on Apple podcasts Spotify, stitcher, or whatever your favorite podcast platform is now on with the interview. Ryan welcome to the Brookings cafeteria.

NUNN: Thanks very much. Delighted to be here.

DEWS: The research is titled putting your major to work career path after college. And the authors are you with Diane Whitmore Johnson Bach who was director of the Hamilton Project and research analyst Greg Nance. So we're going to talk about this research and also explore this really cool interactive that you all put together. But first of all kind of a big question in what ways do college graduates do better in the labor market than non-college graduates.

NUNN: So one important aspect of this labor market outcomes which are very different for college and college graduates. So not all of these differences are necessarily due to the education itself that the students are getting but the disparities are really striking. So over their lifetimes college graduates earn about $600000 more than those with only a high school diploma. As of April 2017 in the latest data people 25 and older with at least a four year degree had an unemployment rate of only 2.4 percent while those with only a high school diploma had an unemployment rate of 4.6 percent. You know what's important about this is that we're in a strong labor market right now. During times when conditions are weaker people with more education are particularly insulated from the hardship and the sense that they're usually able to find employment. And these are just the labor market benefits. So there's research that indicates the college graduates have better health lower mortality rates and even better subjective well-being reporting higher life evaluation.

DEWS: And I think it's important perhaps to emphasize I mean this is macro level data. I mean there's a lot of professions that don't even require a college degree. People can be very successful and earn a lot of money over their lifetimes in professions that

don't require cause for me it's like in trades. But generally speaking right over the whole country when you look at these data that's what you're finding.

NUNN: That's exactly right and we think that it's important to go beyond those average differences in the way you're suggesting and that's really what this project is all about.

DEWS: Okay great. We're going to dive into the details and a lot of cool detail here. So if you would explain this in a nutshell what is this new research all about putting your major to work career paths after college?

NUNN: Sure. So this work I think is really all about trying to understand this huge range of career paths that college graduates experience. So you know without a doubt college graduates do better than non-graduates on average but that average difference conceals a great deal of variation. As we've just said. So a big part of that variation consists of differences across majors which were the focus of a previous Hamilton Project analysis. But even after adjusting for majors and you know looking at those differences across majors you still leave a lot of earnings and occupational variation within those majors. So the most surprising part of that research at least to me was just how diverse the possibilities are for college graduates. So in many of the large groups of majors like literature in languages for example less than 15 percent of employed graduates actually end up in the most common job for their major. So for example only 6 percent become university teachers which is the most common job for that major of microbiology majors for example only 14 percent become doctors which is the most common job for them. There are still majors that are more concentrated in sort of lead down a single path after graduation. And for example more than half of employed elementary education majors

actually do become elementary school teachers. So there's some of both here with the interactive Web site that was released for this project. We really wanted to provide individualized information that could be useful to people who are choosing college majors to college graduates and really anybody who might be wondering what they can do with their major. So given the array of possibilities that we see in this data I suspect that many people just aren't aware of all the possible careers that are out there for people in their major. So for example before conducting this project I personally would not have guessed that 2 percent of international relations majors become computer scientists and web developers or that nearly 2 percent of sociology majors become police officers. Nor would I have known that the most common job for chemistry majors is to become a physician. So many of these patterns will strike you as sensible I think once you see them. They're not entirely shocking but it would be difficult to predict it without having seen this data. And then last I would say that you know a big part of the motivation for this project was my younger brother who is shifting out of the acting profession and thinking about other possibilities for his career. You know he was a drama major which is a college specialization that really leads to a ton of different places in life. And you know one useful thing he can do is talk to others with the same background that he has but this kind of data provides a more comprehensive picture of all the possibilities.

DEWS: We're going to dive into this data into this interactive in just a second. But first I just want to follow up on this question. Why is it important to look at the diversity of career paths when thinking about what college graduates earn over their lifetimes.

NUNN: So there are a number of ways to answer that question. But I think the simplest is to just note that this diversity of career paths is associated with wildly differing

earnings. So for example you know if you're an English major and you become a manager you earn a median salary of about $80000 a year. But if you are an English major and you become a postsecondary teacher you are in less than $50000 a year. So in other words the labor market does not treat all graduates with the same major the same way. It really does matter what occupation you enter. And I think the optimistic interpretation of this is that for most college majors there are lots of possible careers some of which are financially rewarding.

DEWS: All right I want to dive into this interactive. It can be found at the Hamilton Project Web site which is Hamilton Project ward. And we have a pulled up here on my laptop and we see a really colorful bar chart. And so select a major sex and age group. So speaking of IR, I was my undergraduate major and I am definitely not working and I are working in digital communications. But I will cite international relations from the dropdown menu of what there's a couple hundred job categories here. I am male and I am between the ages of forty five and fifty four. So when I select those parameters I see what I see a big orange bar that says lawyers, judges, magistrates, and judicial workers a less colorful bar that says other managers. So what am I seeing here, what is this telling me?

NUNN: So the bar on the far left the vertical the stacked bar is telling you the fraction of employed people with that major. In that age and sex groups that you've selected it showing the fraction that go into a particular occupation. So for International Relations majors at least for men 45 to 54 You know we actually don't appear to have a tremendous amount of data so we're only seeing in this case two occupations that we enter that we sort of have enough respondents in the data to identify and the most

common one there it looks like it's about 9 percent are lawyers and then you know a somewhat smaller fraction are in this kind of residual category of managers. And then what the bar is to the right allow you to do the individual bars which are color coded to match that vertical bar on the left. What that allows you to do is dive into that particular occupation for your particular major in your particular age and sex and what you can see there is the median earnings that we observe. You can see the 25th percentile of earnings the seventy fifth percentile and then you can also see the fraction of those folks who have more than a bachelor's degree and in gone to get more education which of course for lawyers is essentially all of them.

DEWS: OK so let's switch to another major. How about English. That's a very common major. English language and literature and instead of selecting male only select female 25 to 34. So these would be kind of recent college graduates with an English major or so talk about what we're seeing here there's a lot more jobs in the stacked bar chart on the left there is on you know 20 of them and sort of three categories.

NUNN: That's right. The data here is much more plentiful. So we're able to really see a lot more. But there's also just a lot of variation in the job stability going into. So it looks like about only just a bit more than 10 percent of English majors are going into the most common occupation for their major which is elementary and middle school teaching. And so that's the orange bar there. And you can sort of go over to the orange bar on the right and see the median earnings for those folks. A little more than $40000 a year. But what I think is interesting here is that then you know if you're someone with an English major and you're thinking about all the different things you might do with that degree maybe you're trying to make a career shift. You can go and you can see these less

common occupations. So for reasons of visual presentation we've only color coded some of them to keep this sort of not too busy but you can go down and look at the sort of grayed out slivers in the stacked bar chart and you can see a lot of occupations that are less common but we still had enough observations to identify in our data 1.8 percent of English Language and Literature majors become retail salespersons or 1.6 percent become counsellor's 1.2 percent of English Majors become registered nurses.

DEWS: And then there's this blue bar called work status along the bottom.

NUNN: So this is something that I think is a really interesting thing that we're able to do with our data and a lot of data. You can't do. So what you can see at the bottom there is for women 25 to 34 with English majors a certain fraction are employed full time a certain fraction are employed part time. That's the bar just to the right and then to the right of that you have the fraction who are unemployed. And finally to the right of that you have the fraction who are out of the labor force and not seeking work.

DEWS: Would be in this case. Fifteen point one percent are not working nor seeking work.

NUNN: And just to be clear that's from our sample of 25 to 64 year olds who do have these four year degrees is constricting our analysis to that this is really cool.

DEWS: I think a lot of listeners are going to go straight to this chart and start playing with this data plug in their own undergraduate major and seeing how they stack up. Well as I said I have an IRA degree and I am definitely not working in that mantra and I'm glad to have that degree now. Let's actually talk about how do you get these data. What is the process by which researchers come up with this huge amount of data.

NUNN: So we are using here the American Community Survey which is a fantastic resource provided by the U.S. Census Bureau. It's a really large survey. And you know few other surveys can match its size and its coverage which allow us to take these detailed looks that you were just seeing what specific major occupation age and gender combinations because we have this great survey the ABS we're able to see even small groups of people in rare combinations. We have a small but very good team at the Hamilton Project that's comfortable working with this sort of micro data and you know trying to elicit interesting conclusions.

DEWS: Now, ask an expert.

LISTENER (THOMAS): How effective is the U.S. tax system at doing its job and how effective is it when compared to other developed nations for a long time. Ask your experts my questions.

SHEINER: Thanks so much for your question Thomas. I'm Luis Shaner policy director of the Hutchins Center on fiscal and monetary policy here at Brookings. The answer to your question depends of course on what you think the job of the tax system is. I would suggest three main jobs. First a good tax system manages to collect revenue to pay for public services. Second a good Texas is fair. And third a good tax system is efficient in the sense that it doesn't make people work a lot less or save a lot less today. I'm going to focus on the first question how well does the U.S. tax system do at actually collecting revenues. Does the tax system work well to collect the taxes that are legally owed. According to the IRS the share of taxes that are legally owed but never collected is about 15 percent. In 2016 alone taxes that are owed but not paid amount to about $600 billion. That's about the size of our annual deficit. It is about the same as what we spend

on national defense and about two thirds of what we spend on social security. Why is so much uncollected. Well one reason is that it's not that difficult to cheat. Of course for most of us who work as employees and get W-2s cheating is difficult and easy to catch. But for businesses and people who are self-employed and who voluntarily report their income it's much easier to understate income or overstate deductions the chance of being caught in an audit is also very low and has been declining because of congressionally mandated budget cuts at the IRS. The number of IRS staff devoted to enforcement has fallen about 23 percent since 2010. Many view these budget cuts as Penny wise and pound foolish. For example the Treasury estimates that for every additional dollar invested in IRS tax enforcement we gain $4 in revenue. So spending more on the IRS actually can save money by making it more likely that people pay their taxes. But even though the U.S. tax gap is very large the United States actually does quite well on compliance relative to other countries. For example in France about 25 percent of taxes are not collected in Portugal about 30 percent and in Italy almost 40 percent of taxes are never collected. Now of course the United States has lower tax rates than most of these other countries which might be another reason the compliance here is better than elsewhere. Taxes simply aren't as onerous.

I hope that answers your question. And if that just whets your appetite for learning more about our tax system, try our budget game, the fiscal shift, which you can find at www.fiscalshift.org.

DEWS: Thanks Louise for stopping by to answer the question. And thanks for your question Thomas. To show my appreciation I've sent you a Brookings coffee mug and

thanks also for your service in the United States. You can send your own question by attaching an audio file to e-mail address to VCP. Brookings thank you to you. And now back to my discussion with Ryan Nunn.

Why there is variation in earnings for people with the same degree but in different occupations. What are those reasons I mean why do a lot of those matter?

NUNN: So this is where it gets kind of tough to provide clear answers. I think some of what's going on here is that people are making different choices about their careers. So you could have two economics majors for instance. That's my major. You know who are identical except for the fact that one of them likes the idea of being a financial manager and the other wants to be an accountant, and that makes for an earnings advantage of from our data almost $40000 for the financial manager. But you know that difference could be associated with differences in quality of life for flexibility hours and so forth. And similarly you have philosophy majors you can see in our data who want to become lawyers and then some philosophy majors who want to become elementary school teachers have some amount of this is choice. But it's important to note though that workers of course differ not just in terms of their preferences but in all sorts of ways that are hard to observe in this kind of data. So it could be that the philosophy majors who become lawyers are especially likely to be coming from elite post-secondary institutions or they come from more advantaged backgrounds than their peers who then become elementary school teachers. And this gets us into really difficult territory. Our goal here was really more to lay out the data and try to provide a lot of this information and to really answer these kind of questions.

DEWS: Right. An economics major undergrad who becomes an accountant might have an MBA whereas you have a Ph.D. in economics so does these data take into account post college you know graduate level education.

NUNN: That's right. So we did look at graduate education in this work in both the document and the interactive but it wasn't really the primary focus of the work we were doing. So what we did is organize the analysis around undergraduate majors. So that's what you see as you click through the interactive for instance you know you pick your undergraduate major. But we did include in the interactive the fraction of workers in a given occupation and major combination who went on to complete some graduate degrees so you can at least see you know how frequent it is that people got the graduate education for that specific combination and that should help to give users of the interactive an idea of kind of how necessary the graduate education would be in a particular job. And in the appendix of our paper we go into this as well we show that the propensity to acquire graduate degrees does vary quite a bit across majors. So people in the physical sciences appear to be the most likely to go on and get graduate degrees. Those in business and communications are among the least likely to graduate degrees.

DEWS: You know it's like sixty two percent of people in physical and related sciences tend to get a graduate degree whereas communications is about twenty two percent. That's so interesting. So I'm going to ask you to now look at some of these questions as they relate to variations and earnings based on gender and then on age. Those are obviously extremely important components of this.

NUNN: Yes I agree this is a really interesting area. We explored it more in the interactive than in the formal analysis in the paper as you click through the interactive. It's

really noticeable how different the earnings are for men and women you know across all different age groups when we simply compare the earnings of men and women within groups of majors without adjusting for any differences in their characteristics. We see women with majors in the social sciences having median earnings around 60 percent of their male counterparts median earnings which is of course a big difference. On the other end of the range for majors in engineering the fraction is closer to 75 percent comparing men and women. We don't try to explain why those disparities exist but we think it's useful to sort of put that information out there at a really fine grained level. Another interesting pattern here which you can also explore in the interactive concerns the employment rates by gender in major. So we went and looked at the majors that had the highest and lowest employment rates for men and women separately. And I thought the results were interesting. So women were the least likely to be employed at around 65 to 70 percent when they majored in foreign languages or theology. But the two two majors that were sort of at the bottom of that range. This includes part time employment which is also more common for those majors so it's even more pronounced when you look at that. On the other end of the spectrum for women those who majored in nursing in pharmacy and in other medical fields have the highest employment rates they were the most likely to be employed at about 85 percent of the people with that major. Men by contrast had a totally different set of majors where they were least and most likely to be employed where they were least likely to be employed. It was actually when they got social science majors in the less math intensive side. So you know not economics but more psychology and sociology.

They were most likely to be employed when they became engineers and there you have employment rates that approach 100 percent I think you also asked about age. So there's also interesting variation there. And you know at the surface there the differences are what you would expect that people make more money as they get older. But what I think is particularly interesting are the ways that the most common occupations differ by age. So one interesting example is drama majors at 25 to 34. You look at the column that shows all the different occupations that John Majors are in and you see a lot of waiters and waitresses I believe you see bartenders you see retail sales. Again that's for the younger folks with those majors. But then when you toggle to the older age group for the same majors you see a lot more k through 12 and postsecondary teachers. We think we're observing what happens as people age within those majors hours of interactive fun away to our listeners and myself too.

DEWS: One last question. So this research is related to and in fact builds on Hamilton Project research that came out about three years ago which is called major decisions what graduates earn over their lifetime. It was conducted by Brad Hirshman and Melissa Karney who then was director of the Hamilton Project. So with that in mind what comes next in this kind of research. Is there a follow on or what else are you working on at the Hamilton Project.

NUNN: Having just finished this I don't think we have any really specific plans for full of work. You know we think that what Melissa Carney and her spine did in that work is tremendously interesting and useful and we're just really extending that. They were looking at those differences across majors on average and we tried to kind of look a little more at the ways that occupations interact with the majors. But you know there are a lot

of interesting directions you can take this and I encourage anyone who's interested in this to you know take a look at this American Community Survey data which I think is a national treasure. And you know it allows you to explore things like gaps in wages between men and women you know and that's something that we didn't really formally look at in this document but that you can see in the interactive that I think contains a lot of possibilities for future work.

DEWS: All right. I want to thank you for sharing your time and expertise today. Thanks very much. You can find the research and spend the rest of your day exploring the interactive online Hamilton Project.

Finally today it's time for Metro Lens, our regular look at issues and ideas related to metropolitan areas in the U.S. and around the world.

SHEARER: Inclusive growth and research and strategy circles around economic development it has become all the rage and rightly so. Hi I'm Richard Shearer, senior research associate at the Brookings Metropolitan Policy Program.

In the aftermath of the Great Recession and global financial crisis advanced economies like Europe and the United States have struggled to extend the benefits of their economic recoveries to all segments of society. The U.S. economy has grown by more than a sixth since the recession ended nearly eight years ago. Yet its job growth has not kept pace with population growth. A smaller share of working age adults is employed today compared to 2007 and middle class wages remain well below their pre-recession highs. This pattern of growth is typical. It helps explain the political and societal divisions that our nation and communities increasingly face. This is why inclusive growth

has become such a popular focus of study and policy ensuring that all segments of society can share in the benefits of growth is crucial for our future economic and political stability. So how do we do it. Cities and metropolitan regions must play a crucial role in promoting inclusive growth. These places represent powerful and distinctive local economies across which the character of growth differs and they house the businesses and institutions that are best suited to increasing economic opportunity in the places where most Americans live in a recent report my colleagues and I take a look at metropolitan regions that are achieving inclusive growth and how they're doing it. Our findings reveal that it hasn't been easy although every one of the nation's 100 largest metropolitan regions achieved economic growth from 2010 to 2015. Only 30 did so by becoming more prosperous. Of those 30 only 11 metropolitan regions were able to extend the benefits of their growth and prosperity to most of their working age residents and of those 11 only four regions also reduced economic disparities among people of different races and ethnicities. One might think that the places on this shortlist of metropolitan regions that are able to achieve the sort of inclusive growth could only be high flyers places like San Francisco or San Jose that are consistent engines of growth and wealth.

But the list is actually surprisingly diverse suggesting that any place has a decent hope of lifting all boats regardless of its starting point measured one way by improving the employment rate median earnings and relative poverty of its working age residents the 11 metropolitan regions that achieved inclusive growth were Albany. Austin Charleston Columbus Dayton Denver Oklahoma City Omaha San Antonio Tulsa and Worcester Albany Austin Charleston and Denver achieved economic growth prosperity and inclusion that benefited a majority of working age residents of all races and ethnicities.

This short list certainly contains some high flyers like Austin and Denver. But for the most part these are small or mid-sized metropolitan regions that are maker or mover economies. Places that specialize in goods movement and or service hubs for advanced manufacturing. Despite their diverse starting points these places do share a few common traits around their path to inclusive growth. First they tended to add jobs in highly skilled trade sectors like advanced business and professional services information and manufacturing at a rate faster than the nation. Second they tended to add jobs in lower paid types of work within those traded sectors like administrative and support staff positions for example. Third these places balanced traded sector growth with growth of good paying jobs for middle skilled workers and non-created sectors like construction logistics and healthcare. Fourth and finally these places some modest growth of consumer oriented sectors like hospitality and retail. That may not pay well but expand employment opportunities for less skilled workers. This pattern of growth indicates that a high road economic development strategy that prioritizes both high skilled and middle skilled traded sectors can facilitate inclusive growth. To be sure places that achieved inclusive growth were not always the strongest performers on measures of economic growth and prosperity. In contrast to high flyers like Denver and Austin Albany and performed below the Metropolitan average on indicators of growth prosperity and inclusion. Yet it still managed to make consistent progress from its baseline suggesting that a metro areas economic STARTING POINT does not preclude it from achieving near-term inclusive economic growth.

Beyond cities and metropolitan regions other institutions like the federal government certainly have a role to play in advancing inclusive growth. These findings

suggest that support for trade and investment in talent to fuel innovative sectors can actually have a big impact on inclusive growth outcomes throughout the economy. But ultimately efforts to improve inclusive growth should leverage metropolitan assets around innovation and trade to support sectors that can provide meaningful opportunities for the greatest number of workers moving inclusive growth from the margins to the mainstream will require widespread recognition of the economic and political imperatives identification of concrete measures to define goals and progress and adoption of specific policies and practices. Cities and regions are perhaps more than ever critical proving grounds for those efforts.

DEWS: You can listen to more metro line segments on our Soundcloud. That does it for this edition of The Brookings cafeteria brought to you by the Brookings podcast now. Follow us on Twitter at policy podcasts. My thanks to audio engineer and producer Gaston Reboredo with assistance from Mark Hoelscher. Vanessa Sauter is the producer, Bill Finan does our book interviews. Welcome to our new interns, Sam Dart, Chynna Holmes, and Bryan Harrington. Design and web support comes from Jessica Pavone, Eric Abalahin, and Rebecca Vizor. And thanks to David Nassar and Richard Fawal for their support. You could subscribe to the Brookings cafeteria on Apple podcasts or wherever you get podcasts and listen to it in all the usual places online at Brookings. Until next time, I'm Fred Dews.

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