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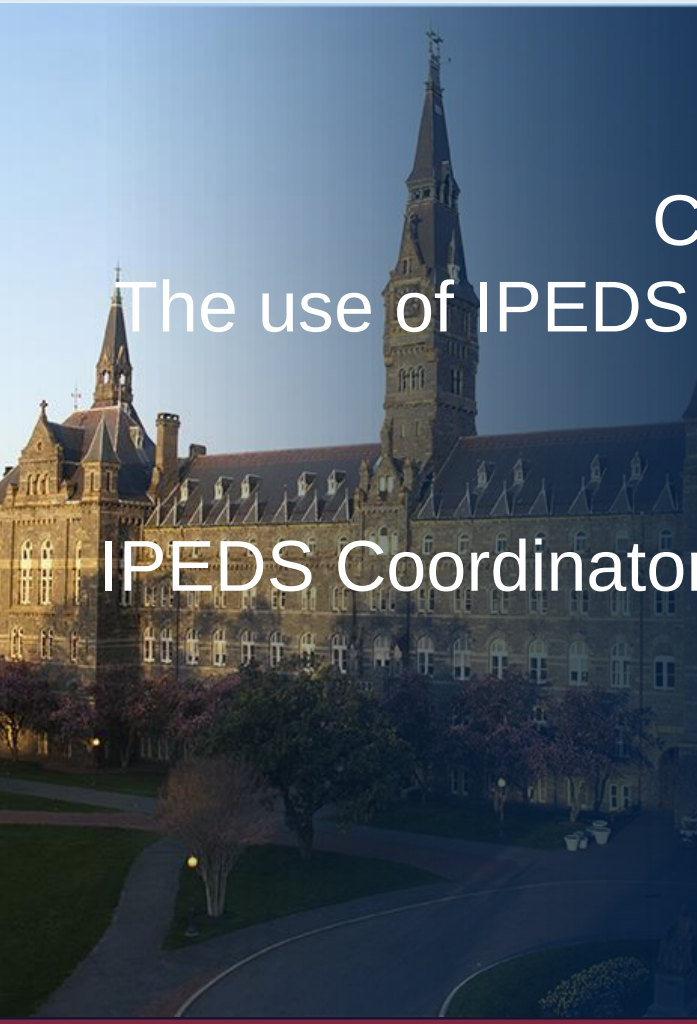

Counting Certificates
The use of IPEDS data to estimate certificate counts in the states

IPEDS Coordinator Workshop & State Data Conference
Crystal City

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April 27, 2016

Key take aways

- **Certificates, sub-baccalaureate degrees and awards, and certifications have quickly become important to state policy.**
- **The demand for hard numbers is growing much more quickly than the data to do a very good job, so 'good enough' solutions are needed.**
- **In the context of state education goal setting, I argue that accepting 'good enough' on stock counts and focusing of robust flow metrics is a good mini-max strategy.**

CEW has developed new certificate counts by state for Lumina's Stronger Nation report.

These estimates are slightly more conservative than estimates found in our 2012 report reflecting both changes in our approach and the use of newer data (original report combined 04 and 08 panels)

Because we don’t have rich data on the full scope of certificates nor do we have good guidance on how many certificates are valued in the labor market we sought assurance that the data are reasonable.

To do this, we worked from the prior that stand-alone certificates are commonly reported as some college, no degree in the Currently Population Survey as well as the American Community Survey.

So we looked at the percentage of the some college, no degree workforce that earns a premium (20%) over high school medians.

This comparison between our ‘good’ certificates estimate and how many people with some college earn a premium shows that our estimate fall well within range of believability.

Three states did not meet this robustness test. There are a number of possible reasons why this test did not work the use of the CPS instead of the ACS. Where the ACS has more data on short-term college

Also, our estimate of 'good' anchors on 2014 data where there could have been production changes in certifications over time (keep in mind that we are estimating stock).

We do not have a comparable technique to check on good certificates among the full population (working, unemployed, not in the labor force).

This supports a key take away for me – States have the ground level intelligence to ensure that the numbers make sense. We provide a good starting point.

Two Key Challenges for IPEDS

1. IPEDS is primarily a flow system but political pressure is on stock. How do we reconcile the two?

2. IPEDS is a credential/award not people counting reporting system. How do we use it to translate to people?

So what the heck did we do?

We started with the Survey of Income Program Participation(SIPP 2008) wave 12 (2012) data to determine, by major and sex, how many certificates holders there are.

We then determine how many of these certificates holders earn 20% or more above the sex specific high school median earning.

Then we aggregate up to a percentage of good certificates by meta major (roughly 20 majors)

These percentages are multiplied by the certificate production in each states IPEDS reporting post stratified to meet the known national totals by major.

What would we do better?

CEW can create a more analytically sophisticated methodology but sample size of national estimates are small implying the estimates needed to generate more sophistication come with the cost of much less reliability.

Even if each component piece of a 5-factor model are 90% accurate then in the multiplicative case may results are 59% reliable (.9*.9*.9*.9*.9).

State administrative data and qualitative insight on non-credit production by comparable field will be key to improvements.

What would do better?

States can delve into ideas, like our original methodology which took into account the interactions between certificate field, occupation, and industry; as well as earning comparisons by sex.

But CEW is not in the position to know whether a statistically weak estimate is a red herring (+/-) while states can figure out if an estimate based on weaker data is truly reflective of the state or not.

There is also a serious question about whether a 20% premium is appropriate for determining that short-term (one –year or less) are valuable?

Human capital theory would suggest 7%-10% for these shorter period certificates.

So why didn't we try to refine our estimates?

Given the myriad of data complications we determined that conservative estimates do the least harm.

We set out to establish a baseline.

We believe that the variation in state needs diminish the value of intricate estimations that might suit one state and not another.

We believe that states are the ultimate authority on whether the estimates pass a smell test – especially given we are forced to use IPEDs or other administrative data to corral non-credit and non-accredited certificate value.

States will likely define 'good' by their 50 different standards (e.g. 10% return for 1 year certificates) which we can not predict.

Where now, Columbus?

We need to ask ourselves why we are doing this.

My perspective is that most states are tasked with measuring progress.

Our baseline estimates are **stock** figures that include a fair number of certificates that are either unmeasured (non-credit) or out of the state purview.

Measuring progress is a **Flow** issue.

It is my recommendation that states investigate what CEW and your peer states have done and determine whether you can stand up the baseline figure and start thinking about how to measure progress.

This will be difficult enough

We make this recommendation for a number of reasons.

- First, owning a method – even if borrowed means that you will understand it and can explain it - simple helps in this regard.
- Second, at the end of the day –if you need to estimate a baseline – it'll be just that – an estimate while the primary forward looking take will be measuring progress.
- Third, there are a number of upcoming surveys that will help narrow in on better estimates, just not right now.

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