INTERPRETING THE DAKOTA ACCESS ECONOMIC IMPACT STUDY

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Cautions, Qualifications, & Disclaimers

- I am evaluating the Dakota Access economic impact study results by Strategic Economics Group for ETP from the perspective of someone who has done many dozens of these studies over the past two decades. I am specifically critical of the Iowa portion of the study, but my critique is applicable to the findings for the other states.
- I am not offering an opinion one way or another on the feasibility, utility, desirability, or the region's net welfare gains or losses regarding this proposal.
- My job here is to help information consumers to
  - Understand economic impact study results,
  - Translate any distortions (if they exist) into clarity
  - Promote critical evaluation of industry studies
- I am a community economics educator and impact analyst – my stake in this is public education to facilitate informed decision making.

The Bottom Line?

- If this project is indeed approved, there will be a sizeable short-term economic impact in parts of Iowa. That is undeniable.
- That impact, in my view, will not be as large as the study contends. As you will see, that too is undeniable.
- I have concerns over several aspects of that study, but I will highlight only those related to over-estimating the Iowa impacts.

Issue #1: Reporting results in "Job-Years"

- For the state of Iowa, this study reported these numbers:

Table 5.1 Pipeline Construction Economic Impact on Iowa

Description	Employment (Job Years)	Labor Income ($Millions)	Output ($Millions)
Impact Type			
Direct Effect	3,998	$229.82	$628.43
Indirect Effect	1,520	$79.46	$209.77
Induced Effect	2,104	$81.06	$250.54
Total Effect	7,623	$390.34	$1,088.74

Issue #1: Cont'd

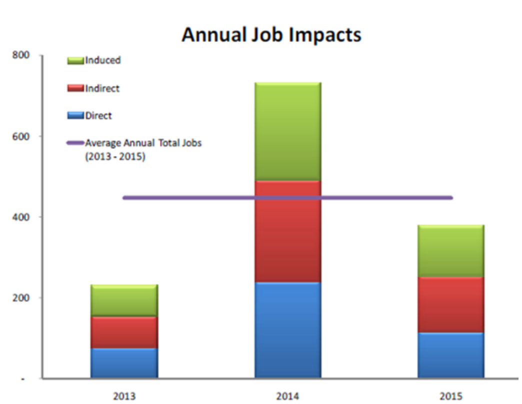
- "Job-Years" means that *if the economic activity occurred in one year,* then that is how many jobs it would support in that year.
- But, the economic activity is not going to occur in one year. It is going to occur over two years.
- For clarity's sake, then, they should have divided every number in the previous table by 2 and declared the annual amount of jobs supported each year. ~3,812 jobs and $504 million in output in year 1, and ~3,812 jobs and $504 million in output in year 2.

Example: I have worked at ISU for 25 years – that means that I have 25 job years to my credit, but it would be silly to say that I had 25 jobs over that period of time.

Here is how I displayed multi-year construction data in a recent study

For the construction of the hydro-electric dam at Lake Red Rock, along with all transmission line additions, these are the job impacts by year

Figure 1



Issue #2: Full-Time Equivalency

- They state in the 2nd footnote on page 2 of their report that the jobs created (for the larger regional study) are the "full-time equivalent of 33,000 40 hours-per-week jobs for one year"
- I am certain they are not. The model does not report full time equivalencies. It reports the annualized values of both full-time and part-time employment.
- Some jobs are conventionally full-time, but many are not. For example jobs in retail and dining and drinking and many other service sectors are counted as the average annual equivalent for a typical job-holder, not the full-time equivalent. That means something completely different.
- Here is why I believe they aren't FTEs:

Issue #2: Cont'd

- Here's their table (from previous)

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- And here's my replication of their results with my own IMPLAN model (without benefit of their sectoral modifications or input detail)

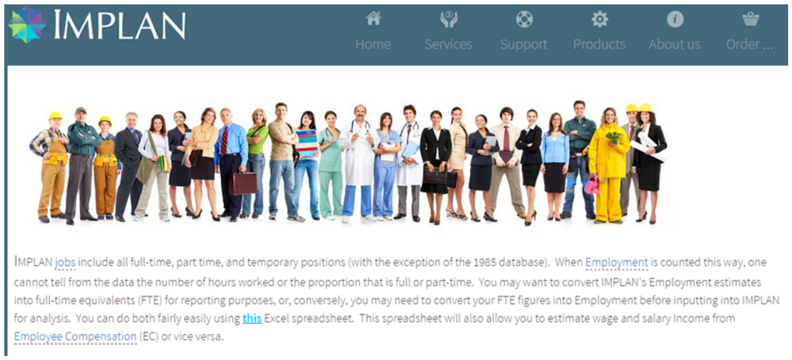
Summary Results | Detail Results | Tax Impact

Total Impact Summary | Copy | Export

Impact Type	Employment	Labor Income	Output
Direct Effect	4,151.4	$242,801,936	$667,585,264
Indirect Effect	1,629.4	$84,762,742	$223,216,823
Induced Effect	1,832.2	$70,707,903	$218,661,936
Total Effect	7,613.0	$398,272,581	$1,109,464,023

- **The IMPLAN model does not report results as FTEs – the FTE value would have been much lower in their table had there been a translation.**

Issue #2, Cont'd



- Reducing all of the jobs in all affected industries to FTEs would have lowered my job total from 7,613 to 7,048 – about 7.4 percent less.

Issue #3: Durable goods purchases in state (pipes, valves, pumps, etc)

- The modelers assumed that a small yet significant fraction of manufactured pipeline, valves, fittings, and pumps would be purchased in Iowa.
- They used the default probabilities (LPP) in their modeling:

Events | New Event | Copy Event | Paste Event | Delete Event | Event Options

Sector	Industry Sales	Employment	Ei Ci	P In	E Y	O D	Local Purchase Percentage
29 Support activities for oil and gas operations	$32,390,000.00	218	...	...	...	...	22.27 %
36 Construction of other new nonresidential stru...	$533,870,000.00	3,528	...	...	...	...	99.91 %
171 Steel product manufacturing from purchase...	$219,870,000.00	286	...	...	...	...	9.38 %
198 Valve and fittings other than plumbing manu...	$59,980,000.00	111	...	...	...	...	9.60 %

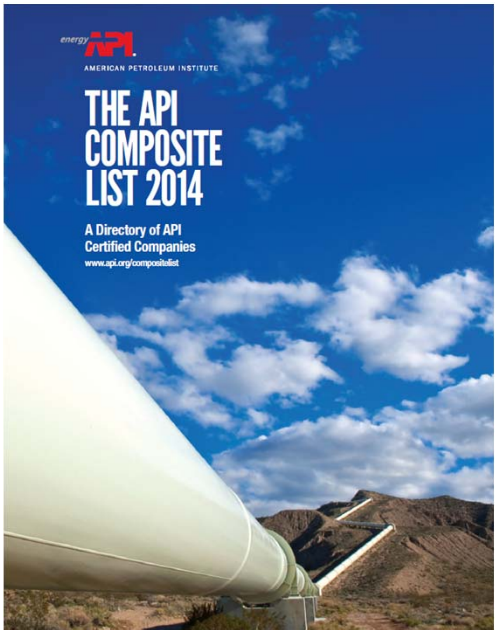
The problem with this is that there is essentially <u>zero probability</u> that these highly specialized (and very expensive) inputs are made in Iowa or in any of the affected states.

Issue #3: Cont'd

- A thorough search of the American Petroleum Institute's 900+ page catalogue of API-certified world-wide manufacturers found no firms in the five states that made this type of pipe (30" OD)
- The result is a significant over-estimate of multiplied-through jobs for Iowa. Here's how much:

	Pipe Line	Valves, Fittings, etc.	Total
Industrial Jobs	285	111	396
Jobs Multiplier	*3.25*	*2.66*	
Total Jobs	926	295	1,222

- 1,222 total jobs as a result of this inclusion is about 16 percent of the reported total job years.



Oops!!!

- IPSCO does produce line and pipe for the oil and gas industry …
- But it does not produce 30” pipe according to its marketing flier

Plant Location	Method	O.D.	W.T.	Standards/Grades
Ambridge/US	Seamless	2.375″ - 4.500″	0.154″ - 0.600″	API 5L, PSL 1,2 A,B, X42-X52
Blytheville/US	ERW	2.375″ - 4.500″	0.156″ - 0.337″	API 5L, PSL 1,2 X42-X60 CSA Z245.1 Grades 290-414
Camanche/US	ERW	4.500″ - 8.625″	0.156″ - 0.500″	API 5L, PSL 1,2 X42-X60 CSA Z245.1 Grades 290-414

KeystoneXL’s pipe

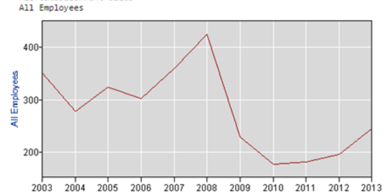
- Welspun - Little Rock, Arkansas, USA 332,800 tons 50%
- Evraz – Regina, Saskatchewan, Canada 156,266 tons 24%
- ILVA – Italy 103,147 tons 16%
- Welspun - India 69,457 tons 10%

Issue #4. Overestimate the capacity of IA’s Oil & Gas Pipeline Construction Industry

For 2013, the last year available, Iowa had 245 payroll employees in 34 establishments in that sector (NAICS 237120)

Quarterly Census of Employment and Wages

Series Id: ENU19000105237120
State: Iowa
Area: Iowa -- Statewide
Industry: NAICS 237120 Oil and gas pipeline construction
Owner: Private
Size: All establishment sizes
Type: All Employees



The study, however, assumed ~1,875 jobs in pipeline-related construction would be needed each year.

Issue #4: Cont'd

- I conducted a shift analysis of that sector using Keystone Phase 1 (KP1) to see whether there were discernible gains in those states between 2008 and 2010.
- I found that the KP1 pipeline did not produce the number of net pipeline construction jobs in those states (jobs going to in-state firms)

Oil and Gas Pipeline Construction Job Net Shifts*
Coinciding with Keystone Phase 1

	2008	2009	2010
North Dakota	521	(148)	416
South Dakota	(33)	143	(118)
Nebraska	(611)	584	(561)
Missouri	(33)	398	(281)
Illinois	1,095	(366)	(287)

* Net shifts, calculates competitive position changes in the industry in a state net of national changes. It allocates, on a jobs basis, the shift in employment to indicate areas where there was more or less economic activity. Source: BLS, Quarterly Census of Employment and Wages

Issue #4: Cont'd

- From this indirect analysis, I am concluding that a healthy fraction of the construction firms will be from outside of Iowa who actually are specialists in large diameter pipeline construction.
- Those firms will bring with them many of their most skilled workers
- Those firms will of course subcontract extensively with Iowa firms to complete the project.
- But the total number of jobs to Iowa construction firms will likely be much lower than the near 100% certainty the study indicated.

This conclusion was validated by ETP. According to an article in the Des Moines Register, 5 Dec 2014,

> *Energy Transfer has said it will hire <u>at least half of the workers</u> for the Iowa section of the line from the state.*
> *(emphasis added)*

Conclusion

- The pipeline's likely temporary economic impact due to construction for Iowa and the region is significantly less than initially reported or perceived
- There are good reasons to conclude that the gains to state-based establishments and their workers are significantly over-stated in the economic impact study.
- I believe, too, there are significant administrative, planning, engineering, design and other costs that are in fact located in other states that have been allocated to the pipeline states.
- Finally, policy deliberations and sound decisions demand the best data and analysis possible. Learning how to interpret industry impact reports aids those processes.