The Contributions of Language to the Economic Interests of the United States

Briefing paper for the Commission on Language Learning of the American Academy of Arts and Sciences.

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1. Executive Summary

This briefing paper provides an overview of some of the factors indicating the impact of language on the economy of the United States. Broadly stated, language, whether considered as a professional service, a commodity, or a type of human capital, provides at least $15b annually in terms of direct income to the economy of the United States, and provides meaningful, middle-class work for some 200,000 individuals. The language industry has grown at rates between 5% and 10% annually since 2004, despite the recession of 2008-2009.[1] Indirectly, the services provided by the language industry may – of all

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[3] In terms of social services, growth in the provision of language services has been driven in large part by the civil rights mandate of language access under Title VI of the Civil Rights Act of 1964, and Executive Order

[1] DePalma et al., 2015.
[2] Lawless & Fenstermacher, 2011.
[3] See the Migration Policy Institute's analysis of the 2013 American Community Survey Data: http://www.migrationpolicy.org/article/limited-english-proficient-population-united-states

13166,[4] reinforced by provisions of the Affordable Care Act that incentivize, at least indirectly, the provision of language services in health care settings.[5] However, the continued growth of the language industry, and therefore the growth of the clients it serves in the broader economy, is constrained by persistent and deep-set structural challenges in the educational systems of the US, which do not graduate nearly enough bilingual, biliterate professionals to meet the demands of the language industry and the economy at large.

In assessing the economic impact of language on the national interest, we examine the following factors:

- The aggregate demand for language services and the language industry's contribution to employment;
- The span of the language industry and how it serves the broader economy;
- The increasing integration of language and technology;
- The demand for linguistic and cultural human capital in the broader economy;

We then turn to the supply chain for language capital, and the ways that it constrains language-related growth in the economy.

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2. The Aggregate Demand for Language Services in the US Economy

An aggregate assessment of the overall value of language to the economy can be estimated by examining the size of the language industry – its receipts and the employment it provides in the private and public sectors – as well as the leverage the industry provides in turn to its clients. We address specifics on the language industry in the next section; as noted in the executive summary, conservative estimates for the language industry place its annual receipts in the United States at roughly $15b, with some 200,000 Americans finding work in the industry; of these, more than 75% are self-employed.[6] To put these figures in context, the US Department of Commerce reports that the automotive parts industry employs some 3.62 million Americans, and had receipts of more than $225b in 2012.[7] As a rough estimate, the $15b receipts of the language industry account for approximately 0.1% (one tenth of one percent) of the US GDP of $16.7 trillion in 2013. Similarly, the estimated 200,000 translators, interpreters, teachers, and other professionals account for approximately 0.12% of the total labor force of the US.

Nevertheless, language leverages a significant amount of economic activity. The language industry serves all sectors of the US economy, with the manufacturing,

[6] http://www.ibisworld.com/industry/default.aspx?indid=1446
[7] http://selectusa.commerce.gov/industry-snapshots/automotive-industry-united-states.html

for linguistic and cultural human capital within companies, which we will address in section 4, below.

With respect to health care – among the largest sectors of the US economy[10] – language has become increasingly intertwined with the provision of health care services of all kinds. Presidential Executive Order 13166 of August 24th, 2000, requires all recipients of federal funding to comply with Title VI of the Civil Rights Act of 1964 with regard to Limited English Proficient (LEP) speakers:

> The Federal Government provides and funds an array of services that can be made accessible to otherwise eligible persons who are not proficient in the English language. The Federal Government is committed to improving the accessibility of these services to eligible LEP persons, a goal that reinforces its equally important commitment to promoting programs and activities designed to help individuals learn English. To this end, each Federal agency shall examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services … and thus [Federal agencies] do not discriminate on the basis of national origin in violation of Title VI of the Civil Rights Act of 1964.

The Executive Order reiterates and clarifies earlier case law

These two sectors exemplify the growing role the language industry

– Language teachers from Pre-K through graduate school;
– Researchers in numerous disciplines (theoretical, applied, computational, and educational linguistics; educational policy and pedagogy; cognitive neuroscience, and others);
– Developers of language curricula and tests;
– Language engineers and computational linguists.

These individuals work in significant numbers – approximately 200,000 – in both the private and public sectors. In the private sector, well-organized verticals occur in the following areas:

- Translation/Interpreting;
- Globalization/Localization/Multilingual-Multicultural Marketing;
- Private language schools;
- Textbook, language learning apps and software.

Each of these divides into further areas of specialization, which we do not cover here.

In the public sector, language professionals are employed in the educational and government sectors. In the educational sector, we estimate approximately 150,000 teachers and researchers in K-12 and higher education.[16]

– K-12 programs
– Higher education faculty

[16] The American Council on the Teaching of FoC 0 Td[(9o21[iatio)3 .

In the government sector, the federal government employs several thousand individuals in training programs such as the Defense Language Institute, the Foreign Service Institute School of Language Studies (both of which enroll some 5,000 personnel each year in intensive language training), the Intelligence Language Institute, and the National Cryptologic School. These training programs support operational linguists (the federal term for individuals whose primary job responsibility is some type of language work), diplomats, and domestic law enforcement personnel. These federal professionals number in the thousands, although exact data are not available. State and local government agencies employ an unknown number of language-capable personnel in law enforcement, social services, and health care.

4. Language and Technology

The language enterprise is deeply intertwined with technology. Technological advances have been rapidly incorporated into language work, be it translation, interpreting, localization, teaching, or other fields. [17] The language industry depends on the technological advances of the 21st century. As it is impossible to manage the 21st-century content explosion without robust, constantly evolving technology, localization now is entirely digital, relying on workflow management systems, translation management systems, translation memories, terminology and

[17] See http://www.languagepolicy.org/wp-content/uploads/2013/11/LSTEM.pdf

data mining, sophisticated desktop publishing, content management systems, and machine translation, among other technologies. Human translators and interpreters no longer work primarily as the "engine" of language mediation, transferring meaning from one language to another. Rather, they work with computer-aided and automated language tools and alongside and as project managers, language engineers, editors, and others. In short, the technical nature of their work is high. Language teaching is also increasingly technologized, especially for "long-tail" languages in emerging markets like Africa and Asia. Finally, the language industry drives innovative R&D that cuts across STEM, the social sciences, and the humanities.[18] This virtuous cycle dates back to the 1950s, with the first developments of machine translation, to the television-delivered distance courses of the 1960s and 1970s, to the integration of a wide array of computational and internet-based tools into language work in the present day.

5. The demand for the global individual: Global Talent

In addition to the direct impact of language on the economy, as measured by the outputs and employment of the language enterprise, and the indirect leverage that the language enterprise has on the economy (and global security) the human capital of language and culture skills is increasingly important to the broader economy. In recent surveys in the United States and the United Kingdom, mid- and large-size companies across the economy now seek individuals with language skills, for a variety of reasons. According to the 2014 Employment Trends Survey of the Collegiate Employment Research Institute of the Michigan State University, some 11% of mid- and large-size US companies specifically seek individuals with language skills. The survey of Human Resource managers at 2,101 mid- and large-size companies asked companies to indicate their college and university recruiting priorities for the spring semester of 2015. In 2008, there were 90,386 mid-size and 18,469 large businesses in the US in 2008, according to the US Census Bureau; mid-size is defined as 100-500 employees and large as more than 500 employees.[20]

and education and government. Geographically, demand for linguistically skilled individuals is concentrated on the coasts and in Texas. The jobs where language skills are most demanded include sales, customer support, and project management; these are typical entry-level professional jobs, which is the focus of the survey.

6. The supply chain

The supply chain for language expertise in the United States derives from five interrelated sectors: academic, federal, heritage, private, and overseas.[21] Academic language programs, from pre-K through graduate school, are limited by overall enrollments as well as the significant time required to achieve meaningful levels of skill. High-quality immersion programs typically graduate high-schools

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continues to grow.[23] Individuals completing longer sojourns abroad are also seen as having valuable cultural expertise. Language skills from study abroad vary as a function of the time spent abroad; a semester abroad typically yields a "2" level on the ILR Scale, while an academic year abroad yields a "2+."[24] Nevertheless, the number of Americans studying abroad in countries other than Australia, Canada,

Finally, because of the global nature of the language industry, individuals with these skill sets are in high demand worldwide and are not tied to any one locale. As a result, the U.S. language industry and its customers face fierce global competition for the available talent. As the language industry continues to grow at a 5-10% annual rate (well ahead of the growth of the U.S. economy and the U.S. workforce), so does concern that the U.S. education system is unable to develop and sustain capacity in foreign languages from kindergarten through college.

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