

The Effect of Content on Global Internet Adoption

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Abstract

The adoption of Internet access is considered important for economic productivity, political freedom, and a well-informed citizenry. Moreover, Internet adoption rates vary significantly across countries. As a consequence, there is a large literature examining economic and social determinants of Internet adoption across countries. However, there is no work properly assessing the role of content. In this paper, we test the effect of content availability on Internet adoption across countries. Controlling for the endogeneity of content with respect to the installed base of Internet users and a range of factors known to affect adoption, we find a statistically and economically significant effect of content on Internet adoption. Content's effect on adoption rates is similar to that of income inequality, population density, primary school enrollment, and the degree of civil liberties, although of lesser importance than that of per-capita GDP.

Internet services is an example of a two-sided market. Adoption by users depends on the availability of content and vice-versa. This feedback poses a difficult empirical problem in isolating the effect of content on adoption. Our identification strategy relies on estimating the effect of relevant content produced by "large" countries on adoption by "small" countries. We argue, and provide empirical evidence, that content production by the "large" countries is exogenous to adoption of Internet access in the "small" countries. To identify content relevant to an adopting country we use the number of users of the language in which the content is written. This provides significant exogenous variation in relevant accessible content across countries. Estimating cross-country adoption regressions, we find that a country one standard deviation above the mean level of accessible content has an Internet adoption rate significantly higher than that of the mean country in the sample.

We also find evidence consistent with awareness of Internet content spreading through social interaction. Content has a greater effect in more densely populated countries and in countries with more linguistically homogeneous populations. This suggests that it is

important to make potential adopters aware of the availability of content in order to spur adoption. It also implies that content may not alleviate social or geographic isolation.

Since content is more easily altered in the short-term than other economic conditions or infrastructure, our results have ramifications for the diffusion of the Internet and the consequent impact on economic development, especially in developing countries. In addition, governments and non-governmental organizations may use content to influence Internet adoption outside of their own political jurisdictions. This is critical since many other factors affecting adoption are not accessible to those outside the country.