stances continue to evolve. Mueller has helped people to think about such challenges, but the theory of Internet governance seems too immature for it to yield reliable predictions.

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Is open-source software the answer?
The Comingled Code: Open Source and Economic Development

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Open-source software has been an enigma to many commentators. Economists, for example, have pondered why any rational person would invest time and energy developing computer programs in order to make them freely copyable and modifiable, when developing proprietary software seems so much more likely to be lucrative. Are there reputational advantages or improved prospects for subsequent consulting gigs that might explain these otherwise irrational investments?

Even more puzzling perhaps is why major firms such as IBM, Hewlett-Packard, and Apple allow (or even encourage) their employees to participate in open-source projects and sometimes even dedicate previously proprietary software to open-source projects.

Leading software industry figures, among them Richard Stallman and Bill Gates, sometimes view open-source software in almost Manichean terms: Stallman, the founder of the Free Software Foundation, views open-source software as inherently good and proprietary software as evil, whereas Gates has sometimes viewed open-source software as a form of intellectual property communism (that's not a compliment) in contrast with proprietary software, which is an admirable capitalist enterprise.

Leaving aside moral considerations, some regard open-source software as inherently better than proprietary software in technical terms because users can alter the underlying code to correct glitches or improve performance. The conventional wisdom also has it that open-source software is always cheaper than proprietary software.

The belief that open-source software is technically better, as well as cheaper, than proprietary software has led some developing countries to consider subsidizing the development of open-source projects or giving preference to open-source over proprietary software in procurements. Some have suggested that developing countries should adopt open-source software in order to promote economic development. The argument is that local engineers may attain more expertise by working with open-source software and then become better developers of software and related technologies thereafter.

But is open-source software really better and cheaper? Should developing countries subsidize or favor open-source over proprietary software? Is the software industry really bifurcated between the open-source and proprietary models, as the Manichean debate suggests? How do firms make money when developing open-source software?

We have Josh Lerner and Mark Schankerman to thank for undertaking a study of the software industry to produce the data necessary to address these questions with something other than philosophical assumptions. Lerner and Schankerman conducted surveys of software developers from 15 countries to gain insights about the software industry that might shed some light on the roles that open-source and proprietary software play in this industry today. Some of these countries had been the subject of previous case studies by these authors; they represent a mixture of developed- and developing-country economies. The Comingled Code reports on the results of these surveys and analyzes the implications of their findings for policymakers.

Almost 2,000 software developers responded to their survey. A substantial majority (62%) were small companies, just under a third were medium-sized, and just under 5% were large firms. The business models of these firms varied: Just under one-quarter were software service providers, and another one-quarter developed customized software; 14% developed software for bundling with hardware; and just under 40% developed software products for a more general market.

One important finding was that 40% of these firms do some open-source development. An interesting sub-finding is that a higher percentage of large firms than small firms (53% as compared with 38%) did open-source development. Only 15% of the firms, however, devoted more than 75% of development hours to open-source projects.

Open-source development was most common among firms that provided software support services, followed closely by customizers and bundlers, but nearly a third of the firms that were pure software developers did some open-source projects as well. It is thus much more common than has conventionally been assumed that firms do both open-source and proprietary development.

One reason to do both is that firms benefit from positive publicity that