Invitation to assist in data collection

Jonathan Liebenau & Patrik Karrberg
Department of Management
London School of Economics
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LSE Research Project on Labor Market Effects of the Cloud;

Initially applied to Smartphone Services and Aerospace Sectors In Britain, the USA, Germany and Italy

We have come to focus initially on the businesses involved in smartphone services and on aerospace manufacturing. This memo describes some of the reasons for this focus by noting key virtues, some interesting externalities, the policy significance that we hope will emerge, and implications for our research methods as we proceed.

Aerospace

Virtues: The worldwide aerospace industry is relatively highly integrated and it is characterized by common precision standards in manufacturing. Although the leading firms such as Boeing and Lockheed in the USA and Airbus in Europe are among the largest companies in the world, they all rely upon a very large number of SMEs as well as large firms in other sectors to supply and service the industry. These networks of suppliers have been relatively well studied and so we feel confident that we can come to an understanding of how they are likely to respond to opportunities in cloud services. Since they also include many leading-edge companies and new technology champions in areas such as materials and avionics as well as aircraft design, this is well-suited to be regarded as a bell-weather sector.

Externalities: This industry is in general a technology leader with an ethos of innovation and rapid adoption. Indeed, our previous studies of the industry showed the extent to which we could relate qualities of technology management with firm success. Aerospace is an industry that tends both to require suppliers to hold to very high standards of production and process, and to have considerable knock-on effects into other manufacturing sectors.

Policy significance: For both the EU and the USA, aerospace is regarded as a strategically significant industry and one that receives political attention. Questions about its efficiency are routinely raised both with regard to government procurement and in relation to indirect subsidies that it occasionally attracts. Some countries also regard employment in the area to be of special political significance. Thus there are many policy dimensions to our study that range from labor markets policies to trade, government procurement, and regional industrial development.

Methods: We would use recent data on the differential capabilities of managers in the industry to utilize new ICT to guide us in our analysis of how the industry is likely to adapt to new cloud services. Most of this industry is included in data within the Standard

Industry Classification [SIC] US number 3721 and comparable categories in Europe. We will focus considerable attention on the various high skilled tasks common to the sector and use our understanding of the strategic direction of both large and small firms involved to show what likely responses there will be to changes in skilled labor employment trends.

Smartphone services

Virtues: Since the mid-90s, "mobile communications" has been the single fastest growing spending category among individuals (according to OECD data of 2006) and is the major part of an industry that contributes over 4% to the GDP in the four countries under study. Smartphone services can be considered as a lead indicator for investments and innovation in the telecom industry overall. However, our previous studies indicate that its effects on the economy far exceed that: managers deploy new skills when developing operating systems and platforms targeted towards mobile usage; much hardware spending is expected to further migrate from stationary PCs and laptops to smart phones. We can hypothesize that smartphone services are also a lead indicator of the effects of privacy and security on cloud computing (as most apps are in the cloud), because users are sensitive and switching costs are low between devices and applications. Service delivery technologies and payments are increasingly standardized by global IT firms, while SMEs develop many of the apps (supported by an active private investment community). New jobs are mostly in the higher wage bracket.

Externalities: Economic data points towards a direct relation between an increase in mobile phone penetration and GDP growth. Our early research further suggests that smartphone services contribute to labor market productivity and is the key driver for handset purchase and network investments among telecom operators in the countries of our study. Such infrastructure investments relate in economic models to high job multipliers compared to most other industries.

Policy significance: Access to telecom services is highly regulated and political both in the US and Europe. However, the lack of strict regulations on the application layer of smartphone services is seen by many as a major reason for its boom during the last decade. Smartphone services challenge traditional silo structures applied by regulators, making the sector a lead indicator also of evolving regulatory change. Privacy is a growing area of regulatory concern due to the abundance of personal information that could be collected from smartphone service users.

Methods: As with computer and software services in general, a mix of SICs needs to be considered when creating the compound economic statistics. However, a relatively transparent corporate reporting, the fact that most of the traffic is carried by a limited number of mobile network operators, and our detailed knowledge of the sector provide necessary tools for economic estimates. We are especially interested in monitoring trends in service production between large corporates and SMEs, the degree to which service creation is moving away from telecom operators, and what skills and professions are at the forefront in new development. This industry is mainly included in Standard Industry Classification [SIC] 737 and 4812 in the US and comparable categories in Europe.