SNS Economic Policy Council Report 2021: Digitalization and Competition

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Summary

DIGITALIZATION IS RAPIDLY transforming industries across the globe, and the cases attracting the greatest media attention tend to be a handful of American multinationals with operations spanning Europe and the world. The European and Swedish industrial policy debate often revolves around how to respond to the increasingly dominant position that these firms have rapidly acquired in the past few years.

The questions are numerous. How will Amazon's entrance into the Swedish market impact the Swedish retail sector? How will the media industry survive as tech giants such as Google and Facebook control the majority of advertising revenues? How will American and European court rulings play out against Google and Facebook for their alleged monopolistic practices and against Chinese telecommunications firm Huawei for national security reasons? And how will the Chinese government rule on its own digital giants, such as Alibaba and Tencent?

To shed some light on these questions and others related to digitalization and its influence on competition, we anchor this report in the ongoing international debate on digitalization while discussing the scientific literature in a Swedish context. This report is of relevance for those who would like a deeper understanding of the influence of digitalization on competition and the underlying economic mechanisms and of the related current situation in Sweden as well as some thoughts on what the future might bring. We are currently in a formative stage where the »rules of the game« for industry and firms of the future are being formulated. Thus, it is of utmost importance that we raise awareness around these issues. Below we present a summary of the main findings of our report as well as some policy suggestions.

Laying the groundwork: Technological shifts, competition, and regulation

Ever since Adam Smith's reasoning about the invisible hand, most economists view competition as beneficial for economic growth and prosperity. Consumers are able to choose from a wide range of goods and services while competition drives continuous improvement and innovation. Major technological shifts influence competition as they can lead to significant productivity gains, which usually benefit consumers. However, they can also influence conditions in certain markets so that competition is weakened as opposed to strengthened as some companies are able to abuse their market power.

To some extent and arguably even more far reaching, digitalization is no different from previous radical technological shifts, such as the steam engine, electrification, and mass production. These technologies were so revolutionary in themselves that they were sometimes described as their own industrial revolutions as they not only influenced local markets but even competition, societies, and the balance of power on a global level. According to some economic historians and others, we are now in the middle of the third industrial revolution driven by digitalization. It is striking how, for example, the list of companies with the highest global stock market valuation primarily comprises relatively new companies related to information technology, e.g., Microsoft, Apple, Amazon, Alphabet (Google), Facebook, Alibaba, and Tencent.

The questions of concern from a policy point of view then are whether competition authorities need to be vigilant about the risk of these companies and others abusing their market power as digital technologies change the rules of the game or if there may also be completely new issues bearing on competition, such as those related to data ownership and use. Regulations are a slippery playing field. While some well-designed regulations may maintain or improve competition, improperly designed ones can lead to significant negative effects on competition. An awareness and understanding of digitalization and its influence on competition becomes therefore even more critical due to the increasing pace of change, as many argue that we are already facing the fourth industrial revolution in which technologies such as artificial intelligence and genetic engineering can have a major impact.

The underlying economic mechanisms related to digitalization's influence on competition

As many have previously commented, we note that on the one hand digitalization can lead to increased competition and improved consumer welfare due to the greatly improved access to a wide variety of goods and services at relatively low prices or even »free«. On the other hand, we also note a trend towards increasing monopoly power as many of the »rules« that exist in market economies on how goods and services are produced and sold are being undermined by digitalization and the ability to effortlessly sell across national borders.

What are the economic mechanisms that have facilitated this? In short, digitalization can be said to influence markets through three *cost* mechanisms: economies of scale, the low cost of collecting and analyzing data, and the low cost of communicating across industry boundaries within an ecosystem, and through three *demand* mechanisms: network effects, more fluid boundaries between industries, and the increased ability to compete across national borders.

Low data and communication costs combined with more fluid industry boundaries and increased access to global markets enable actors despite their relative size to enter markets and reach customers across the globe, thereby initially increasing competition and decreasing market concentration. However, in markets where investments in, for example, R&D or marketing have a significant impact on production costs or the perceived quality of the product or service, this may lead to economies of scale and thereby elimination and consolidation and thus a market dominated by a few investment-intensive companies.

Further, network effects, which many view as demand-side economies of scale, have also tended to result in barriers to entry and market concentration. Many of the most prominent big tech companies have a platform-based business model, which facilitates transactions among different sides in a market and the creation of network effects. Network effects play an important role here as the more sellers there are on a platform, the higher the value created for buyers, and the more buyers there are on a platform, the higher the value created for sellers. Network effects on platforms are thereby one of the underlying factors that has led to a »winner-take-all« situation in some industries.

In order to understand competition in platform markets, it is important to analyze the different sides of the platform. If customers have access to many services through a platform without paying for these, one might easily conclude that there are no problems related to competition. This is in line with

how competition is traditionally viewed: the focus is largely on the price effects of various acquisitions or practices. However, pricing in platform markets frequently involves one side of the platform being subsidized by the other. While this may not be a problem in relation to competition, the key issue of which to be aware is whether the platform in focus is able to reduce the ability or interest of consumers to use competing platforms in the same or even in other markets. For example, in addition to network effects, platforms can use their position to enter other markets or to collect and analyze competitor and consumer data, enabling sophisticated pricing, collusion, or prediction of future consumer behavior. These actions strengthen barriers to entry through reducing the ability for new entrants and innovations to enter the market, not only on the supply side of the platform but also for other platforms to enter the market.

In addition to the above, a broader question is whether competition in the economy as a whole has changed over time. In recent years, some notable economic studies have found support that profits, margins, and market concentration in general have tended to increase over the past 20 years while the labor force's share of profits has decreased. Further, business dynamism in digitally intensive sectors has not only been declining, but it has also been declining relatively more than in less digitally intensive sectors, especially since 2001. Some economists and other scholars conjecture that this is due to the increasing market power of some companies, which has been accelerated by digital technologies.

»Regulating digitalization« – A legal framework for competition and unforeseen consequences

While general laws and regulations exist against companies abusing their dominant position or against competing companies collaborating with each other, we note that digitalization has so far led to few sector-specific regulations, which is particularly important to consider when making policy recommendations in the future. For example, while several policies have been implemented to regulate the telecom sector in the US and Europe, the same policymakers have not regulated the internet or the markets that emerged on the internet in the same way. Rather, the idea was that the internet and what flowed on it should remain free and democratic without in-depth regulation or consideration of property rights.

In light of this, the principle of net neutrality, that internet service providers (ISPs) cannot differentiate their fees according to, for example, capacity utilization, is of interest. Due to a hands-off policy, ISPs must charge a flat rate to all organi-

zations, and cannot, for instance, demand higher service fees from larger actors, such as platforms, compared to smaller actors, despite an exponentially higher internet usage by the platforms. This serves as an illuminating example of how regulation affects markets and where profits can end up in the value chain over time.

Starting around 2015, however, some groups at the EU level and in some major EU countries were increasingly of the opinion that the internet should be better regulated. Areas such as editorial content, data protection, and the lack of platform regulation were hot discussion topics, while the importance of big data for the commercialization of products and services as well as for research and development started to become obvious. Some regulators in many cases initially adopted a cautious approach with regard to competition in digital markets. However, recently this has changed significantly and the European Commission has pursued a number of cases against major platform actors for abusing their position, including three publicized cases against Google.

Further, *inter alia* Facebook, Amazon, and Apple are subject to investigations by the European Commission and national competition regulators for suspected infringements of competition regulations. The focus of these investigations is particularly on issues related to platform competition, such as a platform 1) favoring its own products or services over that of other actors using the platform (so-called self-preferencing), 2) using its dominant position to gain advantage in neighboring markets (leveraging strategies), or 3) using contractual terms that hamper competition (in particular so-called most-favored-nation terms). However, it is important to note that vertical price parity clauses (that businesses, such as hotels, are not allowed to list a lower price on their own website compared to the price listed on the platform) have also occurred.

While actions aimed at platforms for restricting competition may fit into established categories of market position abuse, the challenge is that the platform market conditions may not fit the typical model for how to address these kinds of cases. Developing appropriate legal practices for these conditions is, therefore, crucial for establishing a level playing field when it comes to competition in digital markets now and in the future. At the time of writing of this report, the European Commission has proposed two legal initiatives: The Digital Markets Act (DMA) and Digital Services Act (DSA), of which the DMA specifically addresses the business conduct of large platforms.

The EU has also initiated several ambitious regulation initiatives related to the free movement of data, data protection, and unfair business practices. Some are more general in nature whereas others are industry or sector-specific. For example, a

number of specific regulations addressing digitalized public documents, financial data, and traffic data stipulate that under certain conditions, companies and competitors can request access to data collected by other actors. These regulations, which are increasing in number, do not take into account, however, whether the company requesting access to data is a small startup or a large platform operator.

Of particular note is that there is some indication that the EU General Data Protection Regulation (GDPR) results in smaller actors not being able to create value based on data to the same degree as large actors, thereby limiting competition. Market-leading platforms are able to collect large amounts of data from many different sources based on broad individual consent and also have extensive data science and AI resources and competences to analyze and create value from the data. Smaller actors are less capable of collecting data and obtaining consent in addition to often having limited data science and AI competences and resources. Large actors are also able to use GDPR as an excuse for refusing to sell or grant access to their data. Since there is a high degree of uncertainty in the market as to what actually is limited by GDPR, large tech companies can use the regulation aggressively and limit their data sharing activities beyond what seems to be required according to GDPR.

Digital transformation in Sweden

Turning to Sweden, the country is experiencing significant digital transformation within numerous markets, such as retail, financial services, media, and local transportation, and the country often ranks highly on international digitalization indices. It has produced several unicorns, such as Klarna and Spotify, leading the country to be among the highest in the world when it comes to the number of unicorns per capita.

Other developments have resulted due to digitalization, such as the recent explosion of electric scooters that has affected the streets of several Swedish cities. It is noteworthy that this development is not about platforms since each scooter company has its own app. On the one hand, new technology using smart phones and digital solutions has made it possible for a completely new market to emerge in a relatively short time with the potential for significant consumer welfare gains. On the other hand, the negative externalities are significant as a fairly wild flora of electric scooters were strewn on sidewalks and bike lanes across Stockholm during the summer of 2020. Regulations for this market have had to rapidly progress, and an investigation is underway under the auspices of the Swedish Transport Agency, which will report on its assignment in March 2021.

While we note that Sweden in many ways is at the forefront in terms of how digitalization has led to positive effects for consumers and ranks highly on the OECD's global competition index partly as a result, we also see several challenges on the horizon associated with digitalization, competition, and consumer benefits.

Similar to other OECD countries as noted above, business dynamics in digitally intensive sectors in Sweden have slowed in recent years. However, Sweden has been relatively better at maintaining the entry rate of new firms in digitally intensive sectors, with only a slight decrease, while the entry rate of new firms in digitally less intensive sectors even increased. These comparatively better changes may be due to Sweden's policy efforts to promote digitalization across the country and various sectors. The challenge is that other countries appear to be catching up with Sweden in terms of their ability to generate companies creating competitive advantages based on digitalization.

One area of concern is that Sweden's small and medium businesses continue to be less digitally mature than large ones, particularly in areas such as cloud computing, social media, e-commerce, and big data. As for Sweden's B2B companies, they are lagging behind many of their EU counterparts in e-commerce solutions and AI applications. Of note is that SME manufacturing companies appear to be making the transition to e-commerce more slowly than wholesale or retail companies. While some retail companies are already using algorithms to automatically track and respond to competitors' prices, many SME manufacturing companies argue that they do not see any strategic value in going online since either their customers do not demand it or they claim that their products are too highly customized to be suitable for online sales.

When it comes to platforms, SMEs, and in particular SME manufacturing companies, are becoming increasingly dependent on global platforms not only for the sale and delivery of their goods but also for other resources, e.g., sourcing of input materials; IT services including access to the cloud, AI applications, and cybersecurity; automation and industry 4.0 networks; Internet of Things services and ecosystems. A danger moving forward is to what degree SMEs will be locked into these platforms due to high switching costs or whether platform algorithms may discriminate against a business in Sweden for various reasons, be they economic or even political.

Looking toward the future – Technological developments and scenarios

As we look toward the future, the development of several technologies, e.g., Internet of Things, 5G, additive manufacturing, blockchain, promise to have a major impact on society and competition and will take on a more geopolitical nature. For example, many products will most likely in the future contain sensors, generate data and run software resulting in connected and customized smart everything from kitchens, vehicles and machines, to even cities. These, in turn, require hubs or platforms that control interoperability among various smart devices.

The system managers in these future hubs in many ways may resemble the system managers operating today in relation to online platforms such as Google and Amazon. They may similarly control their ecosystems and their users, for example, by locking in customers or excluding or limiting compatibility with other systems or specific devices due to different technical solutions and standards as well as due to access, use and reuse of data.

Further, the foreclosure of competitors may be based on agreements, technologies (i.e., different technological solutions and standards or private/privileged application programming interfaces) or superior data access and control. The way in which access to data is regulated is likely to play a critical role in the ability of Swedish companies to effectively compete both locally and globally, and perhaps certain business users of platforms or hubs should be given the right to use the data from various platforms.

The development of Internet of Things may accentuate the problems related to increased market power for different types of platforms and may, above all, also lead to an increasing number of industries being affected. Today we already see several trends toward a counter-reaction likely to result in political proposals regarding competition oversight, information and data legislation, and sector-specific regulations. This means that as we look toward the future, there is a fundamental uncertainty with regard to the future rules of the game in the digital economy. Will the big tech lobby succeed in combatting the most interventionist regulatory proposals and defend its position, or will platform regulations and reforms regarding, for instance, the right to use and transfer data neutralize many of the current problems related to competition?

Looking into the future is always difficult. Nevertheless, we try to envision potential scenarios in 2040, starting from the notion that problems related to competition have essentially been solved (as a prerequisite for or consequence of significant

technological developments), thereby partially reducing our focus on today's platforms permeating much of our analysis and the analyses of others.

We describe four different scenarios using a scenario matrix based on two axes of uncertainty in order to raise our perspective and identify possible developments. One axis concerns the level of international cooperation – will we have a functioning international framework of the kind exemplified by the UN, WHO and WTO, which have come under pressure in recent years, or will we live in a world characterized by the law of the jungle? The second axis concerns technological developments and to what extent, for example, technologies reach a level of convergence among them. Based on these axes, we discuss elements of the four scenarios. In one, the current platform tendencies have been further accentuated at a global level, while another describes a similar development at a regional level. In the two scenarios assuming a high level of technological convergence, we discuss one scenario focusing on local sustainability and one scenario that is more global and open.

Reflections and recommendations

In summary, we distill our findings related to digitalization's influence on competition into the following:

1. Digitization enables Swedish companies to reach a global market and global companies to reach Swedish customers. Markets are expanding and competition is intensifying. At the same time, increased specialization or narrower niches are made possible.
2. The means to access global markets is often via digital platforms, such as Alibaba or Amazon for search and sales, Facebook for advertising, Google for search, advertising and reaching users in Google's ecosystem, and Apple to reach users via the appstore. These channels are controlled by a few actors, so-called gatekeepers.
3. We note that having fertile soil in the broad sense of the word, such as the flow of knowledge and people among different industries, is always crucial for growth and welfare, and that this is particularly important in markets where competition occurs in dimensions beyond price. New technologies tend to follow the pattern of »first nothing, then nothing, then everything«. This means that decision-makers must look ahead and contemplate what might happen in the future – especially in a Swedish context with its independent government agencies. We further ask ourselves whether we need to change the structure of government in order to address issues concerning digitalization and competition – our answer is no.

While Sweden's starting point for a digitalized economic future looks promising according to various digitalization indices, it also looks worse in other respects, such as the adoption of digital technologies by small and medium-sized companies. Thus, from a Swedish point of view, there is reason to focus in particular on the following:

1) Support EU initiatives that promote competition.
Platforms should not benefit from data-related legislation. The platform regulation now being developed within the EU, the Digital Markets Act (DMA), including the right of disposal (right of use) of data specified therein, should be supported.

2) Protect merger regulation and how it is applied in digital markets.
Merger regulation aims to prevent market concentration and competition from being restricted through the acquisition of companies by competitors and potential challengers. Big tech companies have made numerous acquisitions without any government intervention, such as Facebook's acquisition of Instagram. This is partly due to the fact that guidelines and practices are not yet adapted to digital markets. The EU is now trying to address this, but some differences of opinion do exist as can be discerned by France's and Germany's strong reactions to the Commission's ban on the merger between Siemens and Alstom. Sweden does not benefit from laxer merger control.

3) Allocate resources to strengthen the Swedish Competition Authority and other relevant authorities.
The establishment of special units for monitoring competition in digital markets has been proposed in several other countries. We believe that instead the analysis capability of existing authorities and courts should be increased, for example to be able to assess the acquisitions of startups that fall below acquisition thresholds.

4) Improve market conditions for companies in Sweden.
Access to a highly qualified workforce and a sophisticated home market with demanding consumers are two important factors for a competitive Sweden. Higher education at the forefront of international affairs is important, as is the ability to attract international talent and to drive digital maturity in society at large. Access to venture and other capital is another driving factor.

Sweden has many strengths that make it well positioned to take advantage of increasingly digitalized markets. However, in order to stand up to economies with larger pools of human capital, big data and AI infrastructure resources, and large

ecosystems of interconnected companies, Sweden needs to both offer companies fertile soil and influence the regulations in Europe in the right direction.

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