

# Wage tax on a rapidly changing Swedish financial sector

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## Preface

In Sweden as in many other countries, the crisis has triggered a renewed interest in the taxation of the banking sector. A key area of political focus is the VAT exemption on credit provision and other financial services contained in the EU VAT directive.

In Sweden, it has led to the establishment of a government committee that is to review possible remedies. The mandate specifically refers to the Danish wage tax (“lønsumsafgift”), which is applied to all VAT exempt services in Denmark, as a possible inspiration for a Swedish solution.

That is the background of this study commissioned by Svenska Bankföreningen (Swedish Bankers’ Association) that has asked Copenhagen Economics to review the consequence of putting in place a tax on gross wages in the financial sector.

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## Executive summary

Sweden is currently reviewing the option of introducing a wage tax on financial services. The underlying argumentation is that the current VAT exemption for financial services creates a loss of revenue and potentially economic distortions that can be remedied by such a tax.

Our conclusion is that such an approach could be counterproductive for the Swedish economy in a number of dimensions.

In the first place, there is a substantial difference between a VAT on financial services supplied to customers residing in Sweden – the real VAT solution – and a wage tax on financial production in Sweden. This may well reduce the under-taxation of private consumers' use of financial services as a real VAT solution would bring. But it will at the same time compound an existing over-taxation of businesses' purchases. They already pay a hidden VAT from banks' purchase costs (software, equipment, premises) which they cannot deduct against their outgoing VAT. This will in particular hurt smaller Swedish firms relying on Swedish banks for finance while we expect much less impact for international Swedish firms already tapping international capital markets. Furthermore, it will reduce Swedish banks' ability to compete from Swedish soil against competitors from other countries.

Hence, business investment as well as external competitiveness will suffer for small Swedish businesses and internationally oriented Swedish banks.

An introduction of such a tax in the coming years also fails to take into consideration the major transformation that digital technologies are bringing to the financial sector globally. It has allowed more-and-more of the value chain from customer contact to back-offices functions to be carried out by large IT-systems. This has and will continuously lead to rationalisation of retail networks and back-office functions towards IT-based solutions. At the same time, new players are entering, not the least technology providers, the so-called FinTech industry.

This has profound implications for the functioning of wage tax. First, the digitalisation has dramatically reduced the importance of physical proximity to the customers: Payment services such as internet banking and back-office functions can easily be placed in countries such as the Baltics or India – as indeed Swedish banks have already done. In other words, the financial sector has moved rapidly over the last decades, from a largely retail network model with most “production” being produced locally close to the customer by a traditional bank, to models where services can be provided by many players and located not necessarily in Sweden.

To sum it up, a wage tax on financial services providers operating from Sweden will today see much more “leakage” of activities to firms supplying from other countries and accelerated shifts of back-office and IT-systems within Swedish banks to locations outside Sweden compared to a similar tax just 5 or 10 years ago.



This has consequences for both the fiscal revenues from the tax and bank employment. First, the tax intake from the wage tax will not only be eroded by reduced demand from customers but also by more outsourcing of activities. We expect that the net tax income from the wage tax may be in the area of 5,6-6,3 billion SEK after taking into account these two effects. Second, we expect that the wage tax may lead to a reduction in employment in the order of 3.700-7.200 persons in the Swedish banking sector by 2020, and possible as much as 16.000 jobs in the total financial sector.

In addition, it will also undermine the very strong position that Sweden and Stockholm has in providing risk capital and spearheading the FinTech opportunities. In 2014, Sweden had the largest number of venture capital investments as a share of GDP among all European OECD countries, with a leading position in the Nordics when it comes to small firm IPOs and start-ups. In the end, despite the size of the country, Sweden covers 18 percent of the total FinTech investments in EU.

## Key numbers from the study: consequence of wage tax on the financial sector

	Consumers	SMEs	Large corporates	Total
<i>Effect on prices and demand for financial services</i>				
Cost change	3,3%	3,6%	4,5%	3,4%
Price change	3,3%	3,6%	0,5%	2,6%
Volume change in supply from Swedish	-2,2%	-2,8%	-3,0%	-2,5%
<i>Effects on labour demand in the Swedish financial sector</i>				
Potential job loss in the banking sector (incl. outsourcing effects)				3.700-7.200
Potential job loss in the financial sector (incl. outsourcing effects)				8.200-16.000
Relative change in labour demand in the financial sector				7-19%
<i>Revenue estimates</i>				
Static revenue				6,9 bn SEK
Dynamic revenue				5,6-6,3 bn SEK

Note: The estimates are based on a 15 per cent wage tax on total wages and salaries in the financial sector (excluding social security contributions).

Source: Copenhagen Economics.

## Chapter 1

# A wage tax on a rapidly changing financial sector: Key Challenges

In Sweden, the possible introduction of a tax on wages in the financial sector was mentioned explicitly in the mandate for the government committee working on the issue of the VAT exemption of the financial sector. The purpose of the wage tax is to compensate for the VAT exemption on financial services.

First, we outline the fundamental differences between a tax on wages in the financial sector and the introduction of a real VAT system covering financial services (1.1). Second, we describe how the tax base for a wage tax is becoming more fluid and mobile due to the general increasing digitalisation of financial sector and emergence of a FinTech sector (1.2). Finally, we analyse which complications such a tax could have in the light of the growing digitalisation (1.3).

### 1.1 The wage tax is not really a replacement for VAT

A specific tax on the value added (or proxies for it) inside the financial institution is often referred to as a FAT (Financial Activity Tax). A variant is applied in Denmark, namely a tax on the wage bill of all VAT-exempt enterprises, including both financial institutions, other firms providing financial services (retail stores, car dealers etc.) and other sectors providing VAT-exempt services (private hospitals etc.). The idea is that firms providing VAT-exempt services should not enjoy a tax advantage relative to the non-exempt firms, and the wage bill tax is calibrated accordingly.

From an efficiency point of view, the merit of the approach is that the cost of services provided to private consumers goes up, alleviating the tax advantage enjoyed by them in the exemption system<sup>1</sup>. The calibration of the tax rate can be set in such a way as to ensure some commonality with a full VAT system in terms of increased costs for consumers. In addition, the insourcing bias in the exemption system is reduced because the extra non-deductible tax expense associated with purchasing inputs from suppliers is countervailed by yet another tax expense associated with producing those inputs in-house (the wage bill tax). As a result, the disincentive to purchase from the outside has been reduced.

However, it should be borne in mind that the original purpose of the Danish wage bill tax when introduced in 1990 was to increase the tax revenue from the financial institutions to finance a reduced tax on social security contributions and as counterpart to a raise in the general VAT rate.

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<sup>1</sup> See for example a review of the consequences of the exemption on financial services in Sweden in Copenhagen Economics (2016b) *Simplifying and Modernising VAT in the Digital Single Market for E-Commerce*, a study for the EU parliament.

It was not preceded by any review of the taxation of financial services and products and no investigation of overall efficiency in the tax preceded the introduction: a priori, it is also unclear whether such a tax actually improves economic efficiency.

The first problem with the wage bill tax is that it compounds the tax disadvantage of business customers arising from the VAT exemption. Business customers face higher prices on financial services because financial institutions, as exempt entities, pay VAT on their inputs. The extra tax expenses are recovered through higher prices to business customers, and the wage bill tax just increases the prices further. In contrast, in a real VAT model the distortion would disappear as discussed extensively in a number of studies<sup>2</sup>.

The second problem is that it is hard to calibrate the wage bill tax to match what the financial institutions would have paid had they been non-exempt. This is especially problematic for firms offering both exempt and non-exempt services such as leasing. It is a practical challenge to trace what shares of the wage bill were due to each kind of service, and the judgement is to some extent arbitrary.

The third problem is that the wage bill tax also requires measures ensuring that VAT-registered non-bank enterprises providing credit as a side activity are also taxed. Examples include non-independent consumer credit entities established by companies selling consumer goods such as cars and electrical appliances where credit is provided to finance a specific sale. Such tax measures have indeed been put in place in Denmark, but not without substantial compliance costs and with likely remaining distortions of competition.

Finally, the wage bill tax will distort competition – both between domestic and foreign financial institutions, and between small and large domestic banks. The tax is only levied on production in a given tax jurisdiction, so unless it is matched by similar taxes everywhere else, foreign financial institutions will have a tax advantage when they compete with Swedish banks. Further, a wage tax will result in banks starting to outsource more of their production to low-cost-countries. In a sense, all banks have to outsource in order to compete, and since this will be harder to do for small banks the wage tax will also – indirectly – distort the competition between small and large banks.

Looking ahead, the problem is likely to expand substantially as the fundamental structures of the financial sector are changing due to the growing digitalisation of financial services. The basic argument is that physical closeness to customers across the entire value chain matters less-and-less for most, if not all, financial services as discussed below.

## **1.2 The tax base becoming more fluid and mobile**

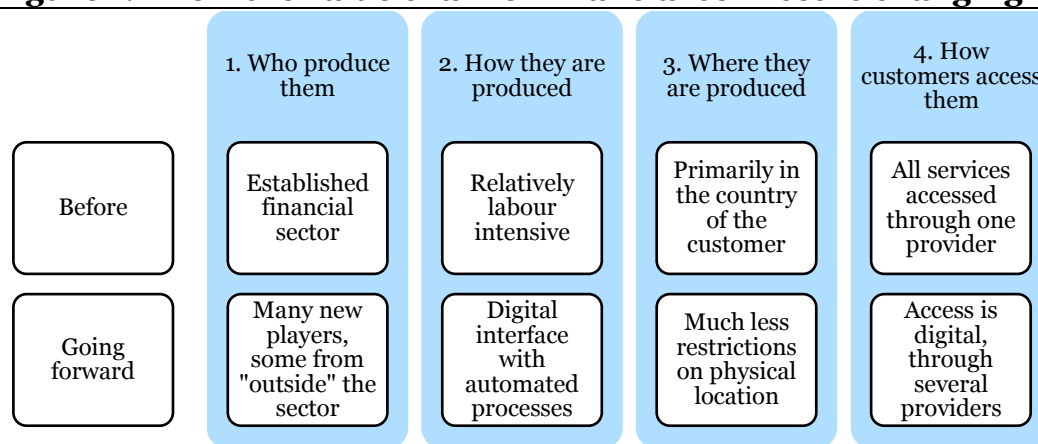
The structures of the financial sector are changing. The rapidly growing FinTech industry, often led by start-ups, is challenging the incumbent financial sector with alternative digital services in almost every domain of the traditional sector. This is anything from money transfer, raising equity, lending activity, trading platforms, financial advisory, etc. These

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<sup>2</sup> An overview of the literature is contained in Copenhagen Economics (2016b).

digital advances have the potential to change the whole value chain of the financial sector as illustrated in Figure 1.1 below.

**Figure 1.1 How the value chain of financial services is changing**



Source: Copenhagen Economics

Below, we will elaborate on these four changes in detail.

### 1. Who: New players in the financial sector

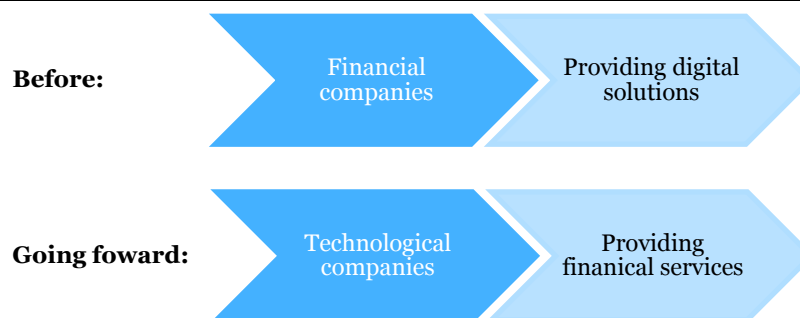
The term FinTech refers to financial technology and the industry is often described as a hybrid between financial and technological businesses.

In some ways, FinTech – as a concept – is not new, since technology has improved financial services for a long period, e.g. ATMs, credit cards, net banking, etc. However, two important factors have changed within the recent years. *First*, the speed at which new financial digital innovations are developed is increasing drastically. *Second* is who delivers these services. Previously, financial innovations were developed and implemented within the established sector. The new wave of FinTech is often led by start-ups with no or little link to the rest of the sector. In this way, FinTech can best be classified as technological companies providing financial services.

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**Figure 1.2 Innovation in the financial sector has turned around**

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## 2. How: Reliance on technology

FinTech companies rely on a digital interface, artificial intelligence and big data and there is often not much labour involved in providing the service. This implies that the service is very easily scalable. Once the software is developed, the service can be supplied to as many customers desired with little additional cost.

Thus, FinTech companies are and will be able to supply financial services at a very competitive price compared to the traditional sector, which is more labour intensive and, in addition, is weighed down by extensive regulation.<sup>3</sup>

## 3. Where: No restriction on physical location

The FinTech industry is in many ways a very heterogeneous group offering a wide range of different services. Nevertheless, they all have one thing in common; they are digital and hereby unrestricted by country borders. The physical location of the consumer and where the service is produced are thus detached.

In that sense, the development of the software, the actual headquarter of the company, the server providing the service and where the service is actually consumed can easily be located in different countries. That makes FinTech companies highly responsive to changes in tax and regulation, since the cost of moving address of the company is small.

FinTech can thus pave the way for further internationalisation of the banking market. Especially since the majority of FinTech businesses target SME and retail customers, which hitherto primarily have had to rely on domestic providers of financial services. In contrast, users of services provided by FinTech companies would most likely care little about the physical location of the company.

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<sup>3</sup> See Chuen, D. L. Kuo, et al. (2015): "Emergence of FinTech and the LASIC Principles"

#### 4. How customers access financial services: The incumbent sector is challenged

As more people get access to and become comfortable with web-based solutions, more financial services will be accessed digitally. This does not only ease the access of the customers – as mentioned, it also greatly increases the potential of providing these services at a very low cost.

The incumbent sector is challenged at a number of markets for financial services; payment systems, money transfer and currency exchange, lending, equity finding and asset management. The challenges at each market are explained and exemplified in Table 1.1 below.

**Table 1.1 Challenge of the incumbent sector**

	<b>Payment systems</b>	<b>Money transfer, currency exchange</b>	<b>Lending</b>	<b>Equity funding</b>	<b>Asset management/trading</b>
<b>Alternative by FinTech</b>	Digital payment systems often via Smartphones	Web-based currency solutions. Blockchain technology as an alternative currency	P2P lending, both retail and business. Institutional players have entered the market	Crowdfunding, both award based and equity based	Digital solutions, with zero fee trading platforms.
<b>Examples of FinTech companies</b>	Apply pay, Android Pay, Amazon payments, iZettle, Klarna	BitCoin, Transferwise, Currency Cloud	Funding circle, Lending club, Zopa	Funding tree, Crowdfunder,	Nutmeg, Robinhood, eToro
<b>Estimated impact on the incumbent sector</b>	<b>High:</b> The market is highly developed and includes big players like Apple and Google.	<b>High-medium:</b> Money transfer is a growing challenge. Impact of blockchain is difficult to assess.	<b>Low-medium:</b> Banks probably still have an advantage in retail but could be challenged by business P2P lending	<b>Medium:</b> Equity crowdfunding is growing fast and could be a serious challenge.	<b>Low:</b> Asset management is one of the least developed areas within FinTech. Trading is established among retail customers.

Note: The incumbent sector has also started to implement new FinTech based solutions and “join the bandwagon”.

Source: PwC (2016), Wardrop, R., et al. (2015), fintechinnovators.com and Copenhagen Economics.

The FinTech industry will undoubtedly pose a serious challenge for the incumbent sector the coming years. The European alternative finance market (p2p lending and crowdfunding) as a whole grew by 144 % in 2014.<sup>4</sup> In UK, where the market for alternative finance is relatively developed, 12 % of all new loans to small businesses in 2014 were granted by p2p lending businesses.<sup>5</sup> Overall, PwC estimates that by 2020 up to 28 % of Banking and Payments business is at risk of being taken over by FinTech.

This points towards a more fragmented sector, where customers will access financial services through different providers depending on the nature of the service required. Conversely, most people today only use one financial company (their bank) to access most of their financial services.

<sup>4</sup> See Wardrop, R., et al. (2015): “Moving mainstream: The European Alternative Finance Benchmarking Report”, p. 8.

<sup>5</sup> See Nesta (2015): “Pushing boundaries: The 2015 UK alternative finance industry report”, p. 17.

The extent to which the incumbent sector will cope with these challenges, depends largely on whether they will be able to adopt these new digital solutions and integrate them in their business model.<sup>6</sup> It is not given that the incumbent sector will diminish in the light of FinTech.

It could very well be that the described changes largely will be implemented within the established sector and the relatively clear distinction between the incumbent sector and the FinTech industry will become more blurry going forward. In fact, there are indications that the incumbent sector is already adapting.<sup>7</sup> Many banks are closing physical affiliates, reducing staff, outsourcing to low-cost-countries and in the same way improving and expanding their digital interface. In Denmark, banks have joint forces, innovating new mobile payment systems; MobilePay and Swiff.

What seems more certain however is that the changes described above will continue during the coming years – within or outside the established sector. Hence, it means that the tax base for a potential wage tax will become more fluid and more mobile. This could both worsen and complicate the negative effects of a wage tax.

### 1.3 The changing structures of the financial sector could complicate a wage tax

The changes in the financial sector described in the previous section is complicating an implementation of a wage tax in two intertwined key aspects:

- **Tax base is becoming more fluid:** It is becoming difficult to identify who is a financial entity hereby who is eligible for a wage tax. In addition, it makes it problematic to operate with the current VAT exemption for financial services e.g. in payment services.<sup>8</sup> It is nevertheless important that a new wage tax on financial services is not creating new distortions of competitions between the FinTech industry and the incumbent sector.
- **Tax base is becoming mobile:** Little restriction on the physical location of financial entities makes the financial sector much very responsive to tax changes across the entire value chain of services.

#### Who will be eligible for a wage tax?

As mentioned, the lines between the financial sector and the technology sector is becoming blurry and it is hereby becoming increasingly difficult to assess who would be eligible for a financial sector wage tax, as illustrated with an example in Box 1.1. Even without a wage tax the problem would still persist, as it will become more and more difficult to assess who should be covered by the VAT exemption of the financial sector.

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<sup>6</sup> See PwC (2016): “Technology 2020 and Beyond: Embracing disruption”, p. 6.

<sup>7</sup> See Accenture (2016): “Fintech’s Golden Age”.

<sup>8</sup> See for example Copenhagen Economics study for the EU parliament (2012) Simplifying and Modernising VAT in the Digital Single Market for E-Commerce.

### Box 1.1 Example: LendingClub

LendingClub is a FinTech company that facilitates business p2p lending. They link an investor that wants to lend to yield a return with a business that wants to borrow and then facilitates the transaction for a fee.

The advantage of the investor is that they can get a higher return than with a bank deposit, since they can circumvent financial regulation to a certain extent (capital and liquidity requirements) and potentially a wage tax. The borrower can likewise get a lower interest, given their risk profile than with a traditional banking loan and maybe access credit that would otherwise have been closed off.

As described, LendingClub does not actually lend out money and is in that sense not a financial company according to the usual definitions.

Note: See [lendingclub.com/public/how-peer-lending-works.action](http://lendingclub.com/public/how-peer-lending-works.action)

Depending on the costumer, a wage tax will have different distortionary effects, see Figure 1.3.

In regards to *private consumers*, the incumbent financial sector could have a tax advantage compared to a domestic FinTech, who in some cases will have to pay VAT of their services. In this light, a wage tax could help to equalize the competition. It would however be preferable if the competitive distortions were addressed by applying the same tax rules to the FinTech industry and the incumbent sector.

**Figure 1.3 Tax advantages : Current rules and with wage tax**

	Private customers	Business customers
Current legislation	Incumbent sector has an advantage since they are VAT exempt	FinTech and incumbent sector are competing on equal tax rules
With a wage tax	Reduce banks advantage relative to VAT registrested firms. Identical tax rules would however be preferable.	Incumbent sector would have a disadvantage

Note: In addition, the incumbent sector is subject to stronger regulation.

Source: Copenhagen Economics.

However, in regards to *business customers*, a wage tax has the potential of creating unfair competition between FinTech companies and the established sector. To illustrate this, take the above example of the p2p lending business, LendingClub, which – under a strict definition – not would be considered a financial entity; the company does not perform any



lending itself but simply matches two peers and then facilitates the transaction. Since the lending is business to business, the service is VAT exempt. However, LendingClub will obviously be in direct competition with a traditional bank that will be affected by a wage tax.

Besides the obvious competitive disadvantage for the established sector, it could be economically inefficient since it would potentially prevent the most cost-effective producer of the good from supplying it. Note, in addition, that the taxation would come on top of extensive regulatory requirements to the incumbent sector compared to for example a p2p lending company.<sup>9</sup>

Thus, if a wage tax were to be implemented, it is important that two identical services are taxed equally, no matter if the service is produced by the incumbent sector or by a FinTech company. In this way, the legislation must describe exactly how the FinTech industry should be taxed. Otherwise, the legislation has the risk of being outdated before it is implemented. Such a legislation has nevertheless the risk of being rather complex and it could be difficult to avoid loopholes as with the p2p lending company.

### **The financial sector is becoming more mobile**

Even if it is possible to design a legislation that will sufficiently tax FinTech, it will still be difficult to avoid that domestic banks (and potentially domestic FinTech businesses) will compete against international players with a tax advantage. As described above, the growing digitalisation of the financial sector implies that foreign players can provide their services from abroad.

A wage tax could then mean that the Swedish financial sector will shrink, as foreign FinTech businesses will gain market shares/outcompete domestic banks (and potentially domestic FinTech businesses if they too will be included in a wage tax).

The issue is to some extent similar to other export-exposed sectors that likewise are competing with other international businesses with different taxation. There are however, some noteworthy differences:

1. As mentioned earlier, most countries in EU do not have a wage tax, making the tax disadvantage substantial compared to other sectors.
2. As financial services become entirely digital, it will be very easy to outsource to another country. Other sectors might find it more difficult due to dependence on physical infrastructure, physical distance to customers, etc.

In addition, FinTech companies could be reluctant to base their operations in a country where they are subject to a wage tax.

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<sup>9</sup> For UK regulation of alternative finance, see Grant Thornton: "Alternative Lending: A regulatory approach to Peer-to-Peer lending".

## Chapter 2

# A financial sector wage tax in Sweden

In this chapter, we analyse the Swedish situation in particular, and how the introduction of a wage tax may affect the Swedish financial sector. That is both in terms of prices and demand for financial services, banks substitution between labour and capital, outsourcing of branches, and how a wage tax may affect Stockholm's attractiveness as a future fintech hub and market for start-ups.

First, we analyse the static revenue of a wage tax and how this may affect prices of financial services in the current regime – for each of the three customer segments: households, SMEs and large corporates (2.1). Secondly, we analyse how this may change the demand for financial services for each customer segment and the total production in the sector (2.2). Further, we analyse and discuss how a wage tax will enhance banks' outsourcing of labour from Sweden to low-wage-countries – the Baltics etc. (2.3). Here, we also give a rough estimate of the dynamic revenue of the wage tax, once the effect on labour demand is taken into account.

In the end, we discuss the effects from a larger business perspective. A wage tax may reduce Sweden's potential as a new FinTech hub and attractiveness for new start-ups in this sector. In fact, it may undermine Sweden's position as a larger financial hub in the Nordic region with a particular strong position in risk capital provision to small Swedish and international firms (2.5).

### **2.1 Static analysis of price effects and tax revenue for the three customer segments and overall for financial services**

In this section, we use the underlying static model and micro data used and explained in Copenhagen Economics (2016a) to analyse the static effect of a wage tax. Specifically we analyse the effect of a 15 percent wage tax, which we understand is in the middle-range of what has been discussed as a possible target. For now, we ignore dynamic changes in demand etc.

We do this in two steps – as for the static analysis of the full VAT system. First, we define the tax base, which includes an analysis of how labour intensive the production of financial services is for different customer groups. Second, we do the actual analysis of the effect of a wage tax for different customer segments.

### Estimating the tax base

When introducing a wage tax on the financial sector, we assume financial firms have to pay a tax as a share of their payments in terms of wages and salaries.<sup>10</sup> This is found in the national accounts.

In 2013, the total wages and salaries to employees in the Swedish financial sector was approximately 46 billion SEK. A part of this is used for production for financial services sold internally in the financial sector. However, in this analysis we are analysing the financial sector as a whole, whereby these internal costs/taxes will end up being paid by non-financial customers. Furthermore, we ignore export to non-EU countries and financial services that currently are sold including VAT.<sup>11</sup>

With a wage tax of 15 percent we reach a static tax revenue of around 6,9 billion SEK based on 2013 figures. That is including the direct revenue of the wage tax when only financial firms are taxed, and the tax is based on the total labour compensation.<sup>12</sup>

In order to analyse the effect of a wage tax for different customer segments, we need to attribute the labour cost to different consumer segments. That is, we need information on how labour intensive it is to produce the financial service currently sold to final consumers, SMEs and large corporates. Here, we rely on micro data from our questionnaire on individual banks, where we also asked about the wage costs used to produce the financial services for different customer segments as well as macro data from Statistics Sweden who produce estimates of gross wage income for the entire sector.

The labour intensities seem to vary a lot, depending on which bank we are considering. Still, on average, it seems that services provided to final consumers have just about the same labour intensity as services provided to businesses as a whole, cf. the left and right most bars in Figure 2.1. This may seem surprising, since one should think that on average 1 SEK of loan provided to private customers should be more labour intensive than 1 SEK of loan provided to businesses. However, here it is important to remember that private consumers mostly demand loans and deposits – not so much other financial services – and loans (especially housing loans) and deposits are typically less labour intensive compared to other financial services.<sup>13</sup>

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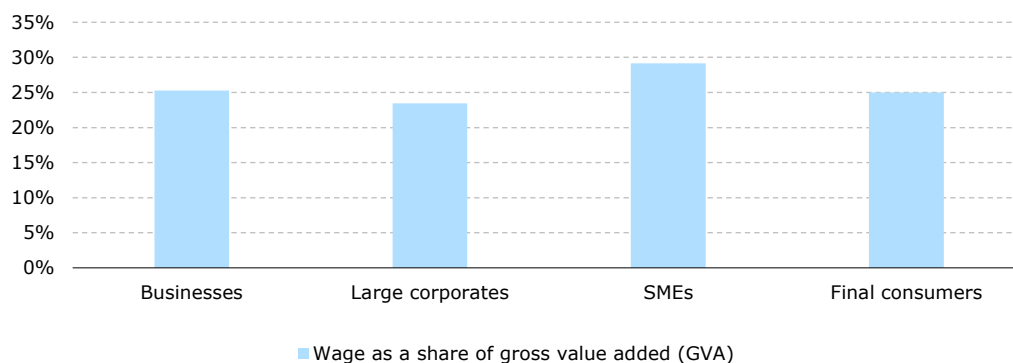
<sup>10</sup> Here we only look at a wage tax on the financial sector, ignoring the financial services provided by other firms. For example, in Denmark, other companies also pay wage tax to the extent that they provide financial services; retail loans etc.

<sup>11</sup> Depending on how the model is setup, financial firms may be able to reclaim the wage tax related to the production of; a) services sold including VAT, and b) services sold to non-EU countries (normally zero-rated).

<sup>12</sup> This is not directly comparable with, for example, the Danish wage tax system, since here the wage tax is also partly paid by other firms selling financial services (retail stores, car dealers etc.) as well as other sectors selling VAT exempt products (private hospitals etc.). If these were included, the tax revenue would of course be much higher.

<sup>13</sup> Here, we also have to remember that we are only considering a questionnaire from 2014: This may be somewhat affected by the fact that Swedish interest margins currently are quite low for SMEs and private companies (relative to large corporates).

**Figure 2.1 Labour intensity in different customer segments**



Note: These numbers are based on rough averages of the labour cost of the biggest banks, calibrated to match the total labour costs of the Swedish banking sector.

Source: Copenhagen Economics and micro data from Swedish banks – see Appendix A.

Looking at labour costs related to services provided to businesses measured by the gross value added, services to SMEs are slightly more labour intensive than services to large corporates. This is linked to economies of scale in relation to large customers, but similar to financing of consumers, SMEs mostly demand loans and deposits and not so much other financial services such as securitisation, IPOs etc.

Allocating the total labour cost on different customer segments, we find that most of the labour cost are related to the production of services sold to final consumers, cf. Table 2.1.

**Table 2.1 Potential tax base for a wage tax**

Billion SEK	Banking	P&I	Other financial services	Total
Total compensation of employees in the financial sector	29,3	10,8	5,6	45,7
<i>of which sold to final consumers</i>	16,2	8,8	0,8	25,8
<i>of which sold to VAT-registered SMEs</i>	5,0	0,9	2,1	8,0
<i>of which sold to large corporates</i>	8,0	1,2	2,7	11,9

Note: These numbers are based on the labour intensities for the banking sector shown in Figure 2.1 and similar calculations/calibrations for *pension and insurance* (P&I) and other financial services.

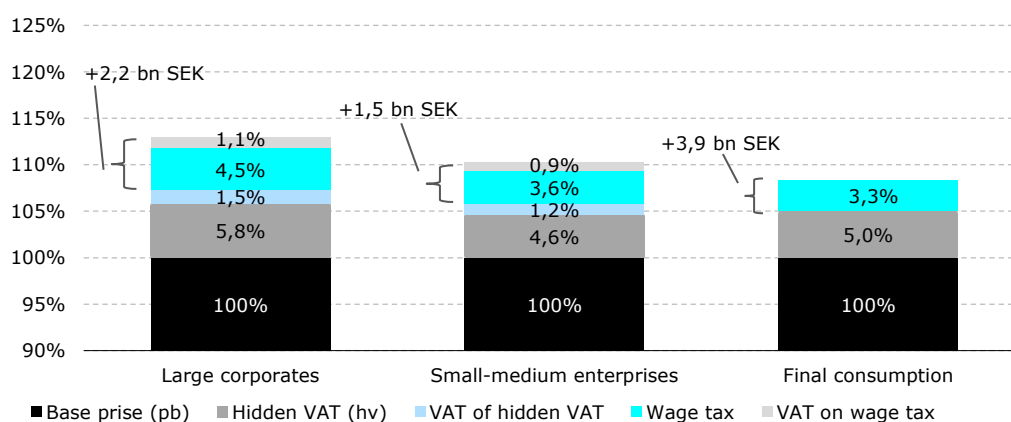
Source: Copenhagen Economics and micro data from Swedish banks – see Copenhagen Economics (2016a) Appendix A.

### Estimating the static tax revenue

Based on these figures, we find that total tax revenue of a wage tax on the financial sector will be 6,8 billion SEK, including a cascading effect.<sup>14 15</sup> However, that is excluding the important dynamic effects where there will be a lower labour demand in the financial sector – this we will examine in Section 2.3. Most of the static revenue will be paid directly through higher costs of services provided to final consumers. A smaller share will be paid through higher prices of services sold to non-financial firms. The non-financial firms will have to increase their prices, which results in the cascading effects where final consumers will have to pay VAT on the higher prices.

In details, we find that 3,9 billion SEK is paid directly by final consumers, about 1,5 billion SEK is paid through SMEs, and 2,2 billion is paid through large corporates, cf. Figure 2.2. This results in a static increase in the production costs of financial services by between 3,1 and 4,3 percent depending on the customer segment.

**Figure 2.2 Components in the static revenue effect of a wage tax of 15 per cent, 2013 figures**



Note: These are our main estimates, and they are subject to some uncertainty. If we exclude the VAT on wage taxes, the static revenue from large companies and small-medium enterprises is estimated to be 1,8 billion SEK and 1,2 billion SEK, respectively.

Source: Copenhagen Economics.

## 2.2 Behavioural responses in demand for financial services

In this section, we use the underlying dynamic model from Copenhagen Economics (2016a) to analyse the dynamic behavioural responses related to the introduction of a wage tax.

<sup>14</sup> If the wage tax is based on the wages and salaries only (excluding social security contributions), the tax revenue will be somewhat less. In that case, our static estimates suggest a tax revenue between of 6,8 billion SEK.

<sup>15</sup> The cascading effect comes when banking services are sold to non-financial businesses. In that case, the cost of the wage tax will be added to the prices of the goods sold by non-financial businesses and eventually private consumers will have to pay VAT on top – i.e. VAT of the wage tax.

We do this in two steps. First, we estimate the cost change and cost pass-through to prices for different customer segments. Second, we do the actual analysis on how demand and profits change in the financial sector because of the wage tax.

### Estimates of cost change and cost pass-through to prices

The cost of financial services sold to large corporates are expected to increase by approximately 4,3 per cent, while the costs for SMEs and consumers are expected to increase by 3,5 and 3,1 per cent, respectively, cf. Table 2.2. These are calculated from the numbers underlying Figure 2.2.<sup>16</sup>

**Table 2.2 Dynamic calculations**

	Consumers	SMEs	Large corporates	Total
Cost change	3,3%	3,6%	4,5%	3,4%
Pass-through	1	1	0,1	
Price change	3,3%	3,6%	0,5%	2,6%
Price elasticity / elasticity of substitution (main estimate)	-0,7 (P)	-0,8 (P)	-7,0 (S)	
Demand change (main estimate)	-2,2%	-2,8%	≈0%	
Volume change in supply from Swedish banks (main estimate)	-2,2%	-2,8%	-3,0%	-2,5%

Source: Copenhagen Economics and micro data from Swedish banks.

Furthermore, the cost changes affect prices for different consumers. We expect full cost pass through for consumers and SMEs while large corporates with access to alternative channels of finance are only expected to experience price changes of 10 per cent.

### Volume changes

The second step is to calculate the volume change as a result of the introduction of a wage tax. We assume that the price elasticity is -0,7 for households and -0,8 for SMEs and large corporates – similar to the assumptions in Copenhagen Economics (2016a). Again, price changes are expected to have limited effects on large corporates as they can easily shift to foreign supplier of credit, given the high elasticity of substitution between domestic and foreign credit. This naturally implies that price changes affect the market shares of Swedish banks, as the high elasticity of substitution between domestic and foreign demand will dominate the low price elasticity.

The demand changes will affect the total value added in the financial sector and in the end profits. In 2013, the value added sold to non-financial sector (within the EU) was 199 billion SEK, see Copenhagen Economics (2016a). If a wage tax system is implemented with no changes in taxes for the financial institution products, we find that the value added sold to the non-financial sector would be 194 billion SEK, i.e. a drop of 5 billion SEK (2,5 per cent), cf. Table 2.2 column 4.

<sup>16</sup> Specifically this is the relative increase in the cost of financial services, i.e. the increase in prices as a result of the wage tax relative to the price without a wage tax.

We generally believe that there are uncertainties in the dynamic calculations. In general, our results are to some extent sensitive to the assumed elasticities, and here we do not account the fact that a wage tax also decreases the Swedish banks' competitiveness (as compared to foreign banks) in relation to Swedish SMEs and private consumers. Further, a wage tax will make banks substitute towards using less Swedish labour in the production and, hence, over time the tax revenue of the wage tax will decrease (see also Section 2.3).

What also needs to be underlined is that changes in lending rates will be substantially higher for customers with low collateral asking for a small loan. This follows from the simple fact that margins are higher for these groups, which reflects that it requires more resources to provide the loan and follow up on borrowers' ability to repay etc. This applies even more so for financial firms providing advisory and due diligence work on small firm equity financing. So a wage tax on financial firms could also risk to drive up costs in particular for firms with high needs for equity finance to fund risky innovation, market growth etc.<sup>17</sup>

### **2.3 The effects on labour demand and dynamic tax revenue**

Another important question is how a wage tax will affect the number of employees in the Swedish banking sector. The wage tax will increase banks' costs of using Swedish labour and, hence, they will substitute their Swedish labour input with capital – more advanced IT facilities etc. – as well as labour from low-cost-countries. This will have direct negative effect on the Swedish economy, but more so it will also erode tax revenue of the wage tax.

Due to the nature and mobility of modern banks and bank services, the cost in terms of Swedish jobs when introducing a wage tax can be quite substantial. The effects on the labour markets will be much bigger today, as compared to the time when Denmark and France implemented the wage tax, see Box 1.2.

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<sup>17</sup> Copenhagen Economics (2016b) has provided a comparative analysis of the Danish and Swedish eco-system for providing small cap equity financing including Initial Public Offerings (IPO). This shows both that Sweden has a very impressive international record in small cap equity financing but also that small firms per unit of equity financing provided requires more resources from financial firms paid for through fees and higher gross returns on investments to pay for agency costs.

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### **Box 1.2 Historical perspectives on VAT exemption and wage tax**

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Historically a VAT on financial services has been considered impractical. Also therefore, some countries implemented other solutions such as the wage tax in Denmark and France. Given the nature of the financial sector earlier, the distortive effects of both a wage tax and VAT exemption were not that large. Banks were very much the sole suppliers of financial services and therefore not in direct competition with other service providers. Hereby there was not the same competitive distortions as today, also in respect to cross border trade, as banks historically operated locally.

Since then the financial service industry has changed dramatically, most importantly through technology and internationalisation. If a wage tax were to be introduced today, the behavioural response and distortive effects in the banking sector will be much larger. Many financial services are now digitalised and new technology has enabled new players to enter the market. The E-commerce market is very much driven by completely new distribution channels and payment models also posing challenges to the VAT-exemption for the financial sector. New market participants now facilitate digital payments, provide credit, gather relevant information, and so on. Furthermore, the digitalisation has enabled financial providers to operate internationally and many financial services can (and is) now be provided by foreign suppliers and sub-branches.

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In the further, we will first analyse how a wage tax affects the demand for Swedish labour – both through standard substitution towards less labour input in production and a tendency for Swedish banks to move back-offices functions outside the country. Secondly, we will analyse how this affects the final dynamic tax revenue of a wage tax.

#### **Substitution away from Swedish labour**

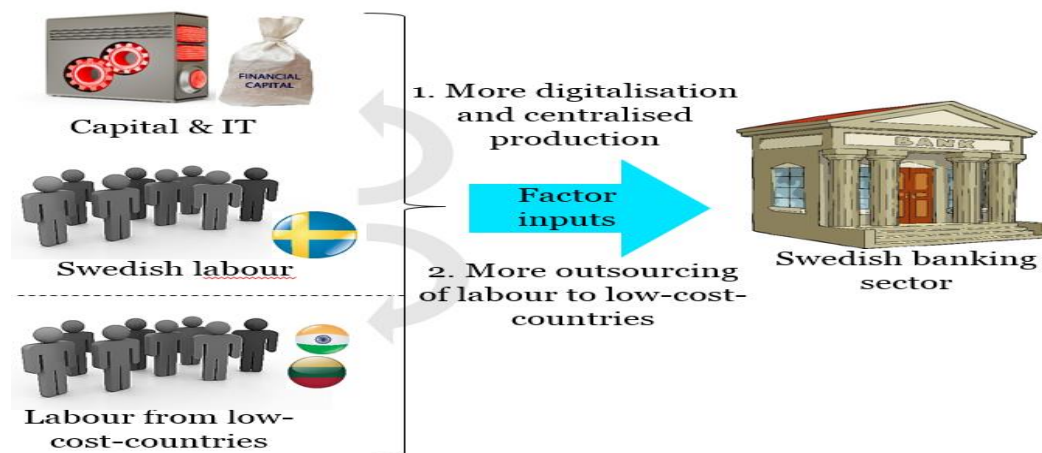
In advanced countries like Sweden, all competitive firms seek to minimise their labour cost and increase their competitiveness and profits. A part of this process has been going on in the Swedish banking sector for many years through centralisation, automatisisation and digitalisation of various processes, a shift towards less direct consumer relations, less regional bank branches and more internet banking etc. see Figure 2.3.<sup>18</sup> Another part of the process is only just begun, namely the process where banks outsource labour from high-cost-countries to low-cost-countries. Here, we will mostly focus on the latter.

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<sup>18</sup> This can be seen from the slightly decreasing number of branches in Swedish banks (especially the large banks) of the last ten years, the increase in cashless branches, and a steady increasing number of E-transactions see Figure 2.9 and Figure 2.10 in the Appendix.



**Figure 2.3 Substitution away from Swedish labour**



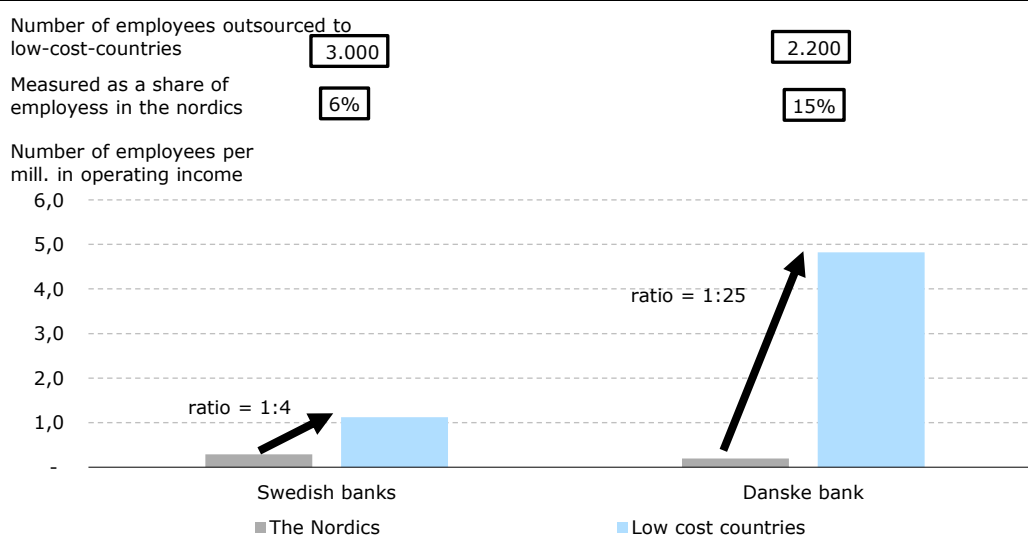
Source: Copenhagen Economics

A wage tax may have a large effect on Swedish banks tendencies to outsource back-office functions to low-cost-countries. Once the production of financial services is digitalised and centralised, it is much easier to move the core production of financial services abroad. This is highly dependent on the difference in labour costs between Sweden and low-cost-countries, and once the labour is moved outside of Sweden it will probably never come back.

This process has slowly started in Sweden, where some of the larger banks have outsourced back office functions to low-cost-countries (primary in the Baltics) even though their operating income in these countries is relatively low.

A wage tax would accelerate this process by increasing the wage difference between Sweden and other countries. To see an indication of this, we compare with Danish Banks – which are subject to a wage tax of 13,6 per cent. However, on the Danish banking market, there is only one other large banks to compare with (besides Nordea), namely Danske Bank. Danske Bank has moved many back-offices functions to India, even though they do not serve any costumers in India at all. Danske Bank has 4,8 employees in low-cost-countries per million in operating income, while this the four biggest banks on average has 1,1 employees in low-cost-countries per million in operating income, see Figure 2.4.

**Figure 2.4 The tendencies of outsourcing labour to low-cost-countries**



Note: The number of employees outsourced to low-cost-countries are very rough estimations based on the number of employees per operating income in low-cost-countries. Here, we assume that labour is 0,3 times as productive in low-cost-countries as compared to the Nordics.

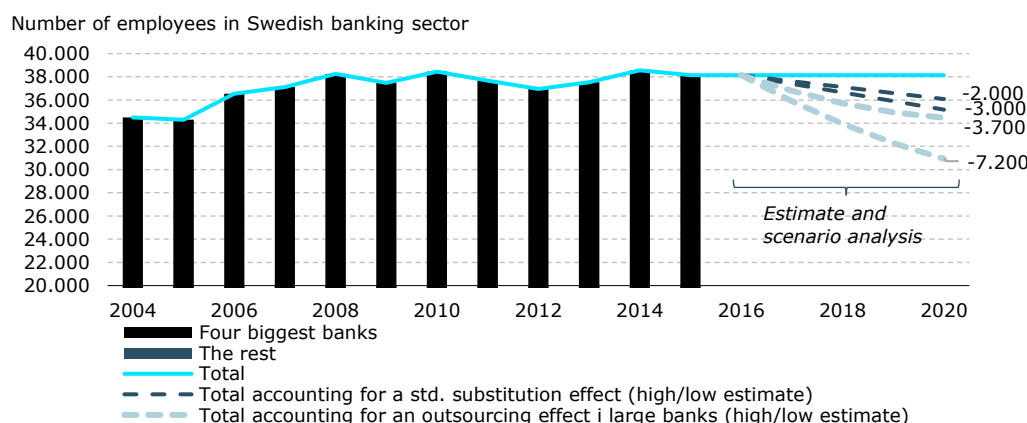
Source: Financial statements 2015

If we assume that labour is on average three times as productive in the Nordics as compared to low-cost-countries, this should be reflected in a labour-to-operating-income ratio that is only about three times as high in the low-cost-countries – for them to just serve the local markets. When the labour-to-operating-income ratio in the low-cost-countries is much higher than that, it indicates that banks are outsourcing back-office functions. From Danske Bank’s much higher labour-to-operating-income ratio in the low-cost-countries we estimate that they have about 2.200 employees in low-cost-countries (mostly India) producing services sold to customers in the Nordics, see the top of Figure 2.4. For all four large Swedish banks together, we find a total of about 2.200 employees in low-cost-countries (mostly the Baltics) producing services sold to customers in the Nordics. Seen relatively, Danske Bank has 15 employees out-sourced employees in low-cost-countries for every one employees in the Nordics, while the four larges Swedish banks only have 6.

Over 85.000 people, representing about two per cent of the total workforce, work in the Swedish financial industry. Out of this, around 38.000 works in banking. Swedbank, Nordea, SEB and Handelsbanken together have about 30.000 employees in Sweden while smaller banks have about 8.500 see Figure 2.5. The total number of employees has increased only slightly over the last 10 years, although the balance sheet in Swedish banks has about doubled over the same period.<sup>19</sup>

<sup>19</sup> The operating profit is fluctuating a lot from year to year, but from the long-run trend, it seems that the operating profit has almost doubled from 2005 to 2015.

**Figure 2.5 Number of employees in Swedish banks**



Note: In the estimations, we assume that the number of employees in the Swedish banking sector will be stable in the years to come if the wage tax is not implemented. This should be seen as a baseline assumption. Depending on the economic situation, competition in the sector etc. the employment in the sector could go either way.

Source: Copenhagen Economics and Swedish Bankers' Association.

It is difficult to predict the employment growth in the banking sector going forward. On one hand, we have seen an increase in employment in recent years, likely associated with a strong economy and demand for financial services products. On the other hand, it is unlikely that a similar trend will be continued, as the economic growth is likely to slow down the coming years.<sup>20</sup> Given that the wage tax is not implemented, we assume a stable employment development in the banking sector in the next couple of years.

However, if the wage tax is implemented, the balance will shift in two dimensions. First, there will be a rather standard substitution effect between labour input and capital input, where banks will go further and invest in new IT-solutions etc. to bring down their labour input in production. Secondly, it will become increasingly attractive for banks (especially large banks) to outsource – maybe not only to traditional low-cost-countries but also to other advanced countries that do not have a wage tax.

In regards to the first effect, we assume an unconditional own price labour elasticity between -0,45 and -0,65, with a full effect in 2020.<sup>21</sup> Banks have other labour costs besides wages and salaries and, hence, increasing banks' labour cost by 15 percent of their wages and salaries equal a total labour cost increase of 12 percent. From here we should expect a standard substitution away from labour, reducing the labour demand by between 5 and 8 percent. As seen from Figure 2.5, this may imply a loss of between 2.000 and 3.000 jobs.

<sup>20</sup> See Nordea (2016): "Sweden Update: There's a limit to everything": <https://nexus.nordea.com/#/article/27499>.

<sup>21</sup> Across all countries in the Eurozone Adam and Moutos (2014) find a labour demand elasticity in the industry of *Office and Accounting* between -0,44 and -0,51 depending on their estimation method, uncertainty etc. That said, we earlier assumed a demand elasticity of financial services of around -0,75 (-0,7 for private costumers and -0,8 for business see Table 2.2). When we combine with the typically assumed capital factor share in production of 66% and a labour share around 33%, we find that the unconditional labour elasticity may be somewhat higher (at least -0,6). That is even when the conditional labour elasticity is around -0,4 as found in Adam and Moutos (2014). To be consistent we therefore assume a band between -0,45 and -0,65.

In regards to the second, we assume that only large banks will be able to outsource labour. As a rough estimate, we assume that half the jobs in large banks have potential for outsourcing, i.e. around 15,000 jobs in 2016 and less the coming years if the wage tax is implemented.<sup>22</sup> It is hard to say to exactly what extent a wage tax will accelerate the outsourcing process, but as a rough estimate, we assume an elasticity of substitution on domestic labour potential for outsourcing of between -0,5 and -3. Here, we also assume a full effect in 2020. This implies an additional substitution away from Swedish labour of 2 to 11 percent, meaning that the Swedish banking sector may lose up to 7.200 jobs in total in 2020 see Figure 2.5.

It is difficult to say if the rest of the financial sector is more or less affected by the introduction of a wage tax. Relative to banking services, we would suggest that geographical closeness to customers is less important for such areas as insurance where physical meetings are rare while on the other hand IT-systems play a very large role. As a consequence, we would expect in particular outsourcing of back-office functions to be at least as attractive as for banking operations. Assuming that it reacts similar to the banking sector, we find that the total Swedish financial sector may lose up to 16.000 jobs as a result of the wage tax.

Important to note that our estimates are based on full implementation now in 2016. A gradual phasing in may push out job losses over more and later years.

### **The dynamic tax revenue**

The resulting substitution away from Swedish labour will have a large effect on the final tax revenue of wage tax. In total, as a result of a 15 percent wage tax, we found that the number of jobs will decrease by between 7 and 19 percent.<sup>23</sup> If this applies to the total financial sector and equally between high and low wages, we find that the total sum of wages and salaries will drop by between 3 and 9 billion SEK.

When we take the dynamic labour effects into account the tax revenue drops from the static 6,9 billion SEK to somewhere between 5,6 and 6,3 billion SEK, when we do not take account of the cascading effect.<sup>24</sup>

## **2.4 Sweden could miss a golden opportunity**

Stockholm is currently a financial hub in terms of raising risk capital funding new innovating start-ups. Further, Stockholm is about to become a major hub for FinTech. Both of these positions may be at risk when implementing a wage tax. This will be discussed in the further subsections.

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<sup>22</sup> From talking to experts on transfer pricing in the large banks, this seems to be a fair, perhaps even conservative estimate.

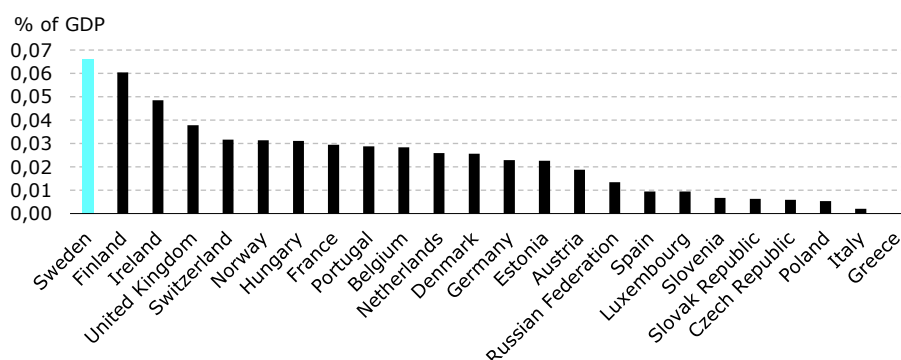
<sup>23</sup> The two extremes are the lowest/highest effect of both the standard substitution effect and the effect of outsourcing of labour to low-cost-countries.

<sup>24</sup> There may be several other dynamic tax effects – e.g. a loss in standard income taxes.

### Sweden is a centre for risk capital and start-ups

Sweden has a dominant position when it comes to start-ups and raising risk capital for small firms. In 2014, Sweden had the highest venture capital investments as a share of GDP in Europe, as seen in Figure 2.6.

**Figure 2.6 Venture capital investments in 2014**



Note: Covers all European OECD countries where data was available.

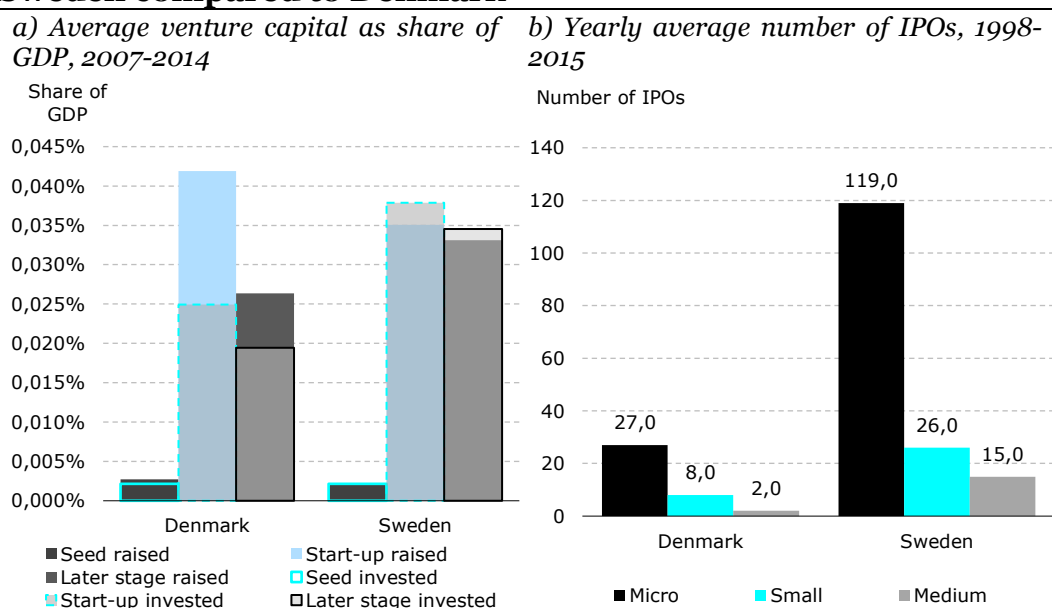
Source: OECD (2015): "Entrepreneurship at a glance".

For example, when comparing to the Danish market, Sweden is able to attract much more foreign venture capital to small Swedish start-ups, and since 1998 Sweden had more than four times as many small firms' IPOs, see Figure 2.7. Sweden is even a large "exporter" of IPOs; many firms from other Nordic countries are seeking the Swedish IPO market to raise new equity capital.

The extensive Swedish venture capital market eases the access of risk capital for new Swedish start-ups. This can partly explain why Sweden has seen many successful innovative start-ups the recent years. In this way, the developed venture capital market contribute to growth and the creation of high-tech jobs in Sweden.

For Sweden to maintain this leading position in the venture capital market, it is important that the financial sector is competitive compared to foreign markets – especially when it comes to prices and cost. The wage and payroll taxes are already high in Sweden, and an additional wage tax on top would worsens the competitive position of the Swedish financial sector.

**Figure 2.7 Small firm IPOs and venture capital raised/invested in Sweden compared to Denmark**



Note: The IPOs are allocated based on the nationality of the firm, not where the stock exchange is located. This mostly have an impact for the Danish IPO numbers, as several Danish firms have been IPOed in Sweden in recent years. Micro IPOs are defined as IPOs, where the freefloat capital sold is less than 380 mio. SEK, for small IPO the free float is between 380 and 900 mio. SEK, and for medium IPOs the freefloat is between 900 mio. and 1,9 bn. SEK.

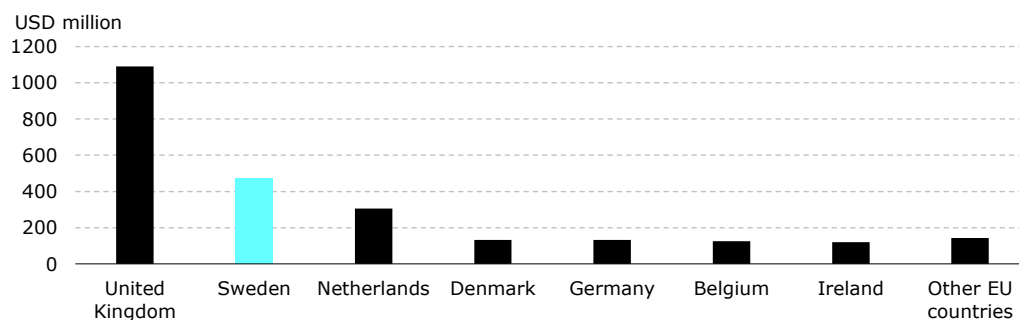
Source: Copenhagen Economics (2016b).

**Great conditions for the investments in FinTech**

Stockholm has already proven to be a centre for new innovation in Fintech. From 2004-2014, Stockholm comprises some 19 percent of the total FinTech investments in EU. That is second highest, just after London, cf. Figure 2.8. In this manner, Sweden has an excellent opportunity to become a central player in the current transformation of the financial sector described in Section 1.2.

Sweden’s leading position is however susceptible to a wage tax, as FinTech companies would be more reluctant to based their operations in Sweden going forward.

**Figure 2.8 Investment in FinTech, 2004-2014**



Note: The vast majority of FinTech investments in UK and Sweden are in London and Stockholm respectively.

Source: Data from Stockholm School of Economics.

With both a relatively large financial and technological sector, it is only logical that the greater Stockholm region has a leading position within FinTech. In addition, the following three factors have contributed to the success:

1. Recently, Sweden has had a few noteworthy high-tech successes like Skype, Spotify and King Digital Entertainment. These have provided valuable knowledge spillover effects to the rest of the Tech-sector and showed the way for other aspiring start-ups.
2. Substantial investments in internet infrastructure during the 1990s have given Sweden the world's third highest internet penetration and the fourth highest smartphone penetration (surpassing UK and US).<sup>25</sup> This has in turn made the Swedish natural early adopters of new digital solutions.
3. Finally, the Swedish labour force is, in an international perspective, highly educated with a high proficiency in English.

### **FinTech could be a highly valuable growth engine**

So far, the advantageous business climate for the FinTech industry in Sweden has paid off in terms of substantial foreign investments. In 2014, investments in FinTech in Stockholm accounted for some 18 percent of the total FinTech investments in EU corresponding to some USD 260 million (which is more than the total invested volume in FinTech in Sweden from 2004 to 2013).<sup>26</sup>

The magnitude of the investments is remarkable considering that the Swedish FinTech industry still just comprises of about 5.000 employed.<sup>27</sup>

Especially within payments systems, Sweden has a strong position with pioneering companies like Klarna and iZettle.

<sup>25</sup> See Nicholas Wesley-James, et al (2015): "An overview of the FinTech sector in the greater Stockholm Region", p. 9.

<sup>26</sup> Data provided by Stockholm School of Economics and Accenture.

<sup>27</sup> Depending on the definition, see Nicholas Wesley-James, et al (2015, p. 19).

The Swedish alternative finance market (p2p lending and crowdfunding) is a bit less developed. In terms of funds raised, Sweden is fourth in Europe behind UK, France and Germany.<sup>28</sup>

As described, the Swedish FinTech sector is already creating growth and attracting substantial foreign investment. The industry is nevertheless still in its infancy and has untapped potential. This is clearly underlined with an average annual growth rate of 115 percent of the of Nordic alternative finance market in 2012-2014.<sup>29</sup>

Hence, there could be plenty of new highly-skilled, high-wage jobs waiting for Stockholm, if the city manages to establish its position as a leading FinTech hub.<sup>30</sup>

#### **A wage tax could make FinTech companies look elsewhere**

A wage tax would arguably not immediately evaporate the FinTech friendly business climate described above and it is likely that the Stockholm region, to some extent, will continue to spur new FinTech start-ups. However, in two aspects a wage tax could prevent Stockholm from becoming a leading FinTech hub:

1. **Established Swedish FinTech companies might move abroad:** More established companies, like Klarna and iZettle could consider to move at least some part of the operation outside Sweden, if they were covered by a wage tax. As described, these services are unrestricted by physical borders and could easily operate from a different country without a wage tax.
2. **International FinTech companies would not base their operation in Sweden:** The prosperous business climate for FinTech companies makes Stockholm – as a starting point – a highly relevant city for international FinTech companies as well as venture capital investors. In a competitive global market, a wage tax of 20 percent could nevertheless be the decider that make international players look elsewhere.

These two factors could in addition have a compounding effect: If the most successful Swedish FinTech companies move abroad and international FinTech companies as well as investors focus on other hubs – new Swedish based FinTech start-ups would miss valuable spill-over knowledge and capital injections from foreign investors. Then, Stockholm could very well miss its opportunity to become a major FinTech hub.

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<sup>28</sup> See Wardrop, R., et al. (2015).

<sup>29</sup> See Wardrop, R., et al. (2015), p. 35.

<sup>30</sup> According to a study, jobs within the technological sector is getting paid on average 17 percent higher than other comparable jobs, even when controlling for factors such as education and experience. See Hathaway, I., and P. Kallerman (2012), "Technology works: High-tech employment and wages in the United States".

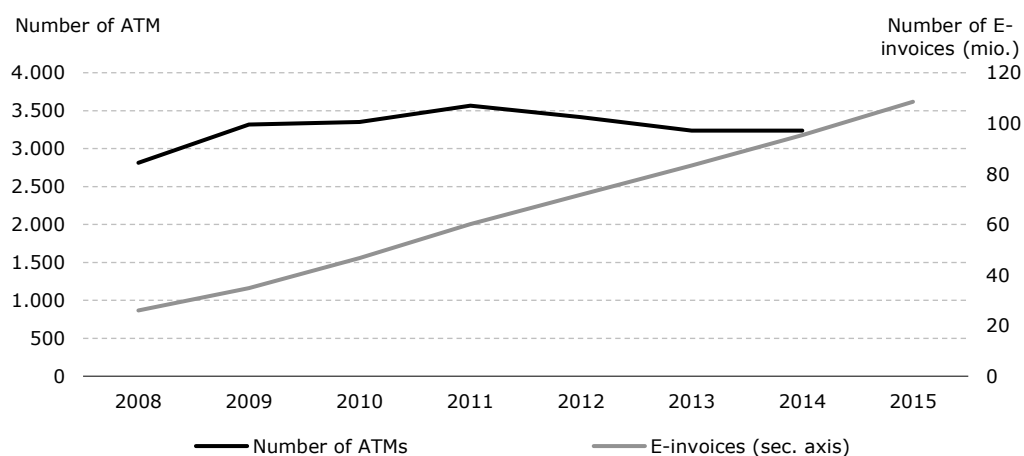


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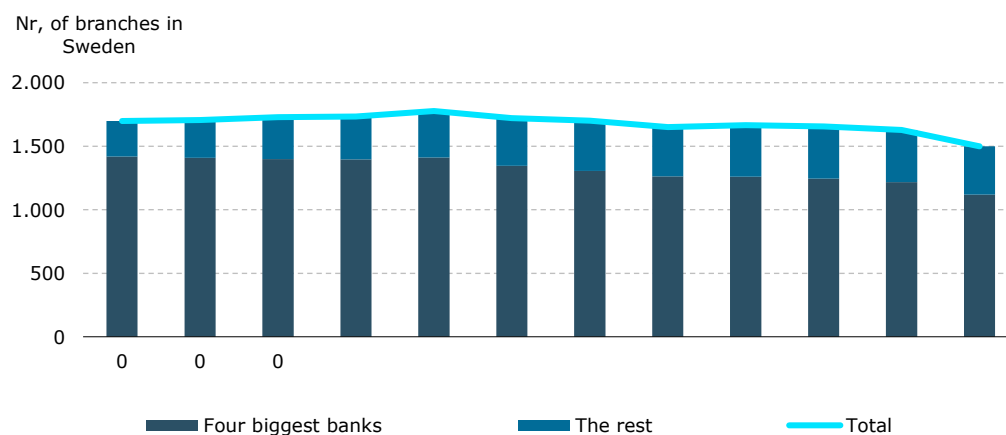
## Appendix A The banking sector in Sweden

**Figure 2.9 Digitalisation of the Swedish banking sector**

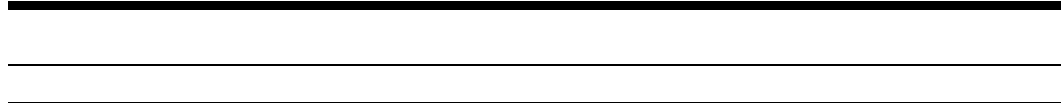


Source: Copenhagen Economics and the Swedish banking association

**Figure 2.10 Number of branches in Swedish banks**



Source: Copenhagen Economics and Swedish banking association



Source: Copenhagen Economics and Swedish banking association