Banking employment in Austria

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The ongoing restructuring and consolidation process in the Austrian banking sector has drawn attention to banking employment developments. This article takes stock of the data on employment, labor costs and related indicators to provide a basis for discussion. Since 2008, the number of employees in banking has been on a slow, but permanent decline. Working hours have decreased even more strongly, reflecting a shift toward part-time work. Wage costs per employee are relatively high and have grown faster than those in most other sectors. However, until 2008, labor productivity growth outpaced labor cost growth. Since the crisis, labor cost growth has exceeded productivity increases, but less strongly than in the rest of the economy. Banks' intensity of IT use has increased over the past 15 years. Not all IT investments were intended to substitute labor with capital. Instead, increasing IT usage in banks went hand in hand with a significant shift toward higher-skilled labor. Moreover, organizational changes related to the ongoing consolidation processes within the Austrian banking sector have contributed to the reduction in labor demand. Until recently, banks appear to have avoided layoffs, relying on attrition instead.

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The banking sector not only fulfills the essential economic function of financial intermediation but also plays an important role for the domestic labor market. Thus, analyzing both the structure and the development of banking sector employment in Austria can provide relevant insights into the extent of change in the role of banking in Austria in recent years – especially since the onset of the crisis. From a financial stability perspective, the issue of employment might be considered primarily a cost factor. But looking at employment is also relevant for understanding how banks fulfill their economic role and – in a wider context – for comprehending the development of Austria as a financial center.

Since the onset of the crisis we have witnessed a slow, but steady decrease of employment in Austrian banking. Moreover, many observers expect a further, possibly sharp decrease of the banking workforce in the coming years. In particular, the OeNB has pointed out repeatedly that the reduction in the number of people working in the Austrian banking sector in the past few years is likely to continue and might even gain momentum in the future (see, for example, OeNB, 2015). Many possible reasons support these expectations, among them relatively high labor costs and reduced profitability, cost pressures due to regulatory requirements and higher competition, technological change and the relatively high number of bank outlets.

This article takes stock of the data on employment in the Austrian banking sector to provide a suitable basis for discussing changes in employment. Seeking to condense the major trends, we have confined ourselves to looking at aggregate data for the banking sector as a whole and discuss neither heterogeneity within the banking sector nor developments at individual banks. Wherever possible, we focus on the period between the eve of

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the third stage of Economic and Monetary Union (EMU), i.e. end-1998, and 2015. We pay particular attention to the period since the onset of the crisis in 2008. To put developments in Austria into an international perspective, we provide some evidence that allows a comparison of Austria with other EU countries.

This paper is structured as follows: Section 1 shows the evolution of employment in banking in Austria by providing data on the number of people employed and on hours worked. We also shed some light on personal characteristics of employees, such as gender, age, tenure and educational attainment. Section 2 provides information on labor costs and productivity. Section 3 compares trends in employment in Austria with developments in other EU Member States. Section 4 discusses several factors affecting labor demand in banking. Section 5 summarizes and concludes.

1 The evolution of banking employment since the start of EMU

At the start, let us clarify what we mean by "employment" in "the Austrian banking sector." We use a narrow definition of the banking sector wherever possible.[2] We define employment in banking as covering exclusively employees in banks operating in Austria.[3] The data include only persons employed directly by banks, not persons employed by nonbank subsidiaries.[4] In the same vein, we disregard employment of Austrian banks in subsidiaries abroad. Banking employees provided by staff leasing firms in banking are not included, either.[5] For more information on the different data sources, see the data source annex.

1.1 Employment in banking on the decline since 2008

Panel (a) of chart 1 displays the number of persons employed in banking according to OeNB banking statistics (blue line). Between 1998 and the onset of the crisis in 2008, employment increased from 74,846 to 80,293 employees. Since then, a continuous decline to 75,034 (2015) has brought banking employment roughly back to the level of 1998. Against the background of positive employment growth in the economy as a whole, this decline implies a rather strongly decreasing employment share: In 2015, the share of banking employees in total employment (dashed black line) was less than 2%, down from 2.4% in 1998. As in the overall Austrian economy, the banking employment pattern to a considerable degree reflected cyclical factors. Panel (b) of the chart compares the growth rates of banking employment (blue line) and of the number of all employees in the total economy (black line). The dashed green line, representing real GDP growth,

[2] *The one-digit NACE (ÖNACE 2008) section K (financial and insurance activities) is comprised of the two-digit division K64 (financial service activities, except insurance and pension funding), K65 (insurance, reinsurance and pension funding, except compulsory social security) and K66 (activities auxiliary to financial services and insurance activities). Whenever possible, we refer to K64. We use the broad section K only if, due to data limitations, no statistics exist for K64. The distinction is very significant: In 2014, according to national accounts data, there were 118,400 employees in NACE K, but only 76,800 employees in K64.*

[3] *The scale of self-employment in banking is very low in Austria and most EU Member States. Social security data tell us that fewer than 800 self-employed persons were working in banking, i.e. accounting almost exactly for 1% of total employment. For example, salespersons of building societies are self-employed.*

[4] *Employment figures in banking may be affected by outsourcing to subsidiaries: Former bank employees might then be classified in economic statistics as being employed in other sectors (such as IT services or real-estate agency services). See section 4.2 for more information on outsourcing.*

[5] *According to the Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection (BMASK), 653 leasing workers were employed in banking at the end of July 2013.*

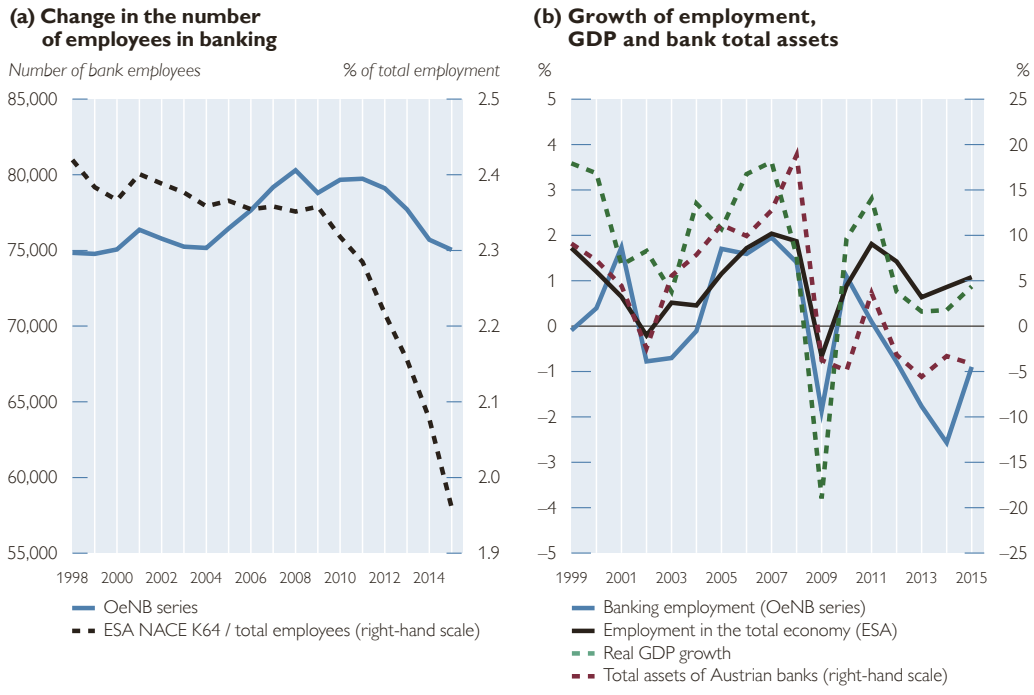
suggests that banking employment is correlated with the business cycle. Its cyclical correlation is significantly positive, but somewhat weaker than that of employment in the total economy.[6] Furthermore, banking employment figures tend to co-move with total bank assets, which are represented by the dashed purple line in the chart. Bank employment grew faster than overall employment in only a few years prior to the crisis (2004 to 2006). Thereafter, the crisis left its mark on banking sector employment, so that from 2009 onward, the banking sector was unable to emulate the continuing growth of total employment.

However, headcount figures alone do not take into account the significant increase in part-time employment, as shown in panel (a) of chart 2: The bars indicate that part-time work increased every year from 1999, whereas full-time jobs mainly grew in the years before the crisis. From 1999, the incidence of part-time work in banking (blue line) rose from 13% to almost 27% in 2015 (8.2% for men and 42.8% for women[7]). A comparison with the part-time share in the total economy (black line) suggests that the banking sector followed the trend toward more part-time work, albeit from lower levels. Furthermore, especially since 2013, the relatively steep increase in part-time work for both men and women is consistent with the sector's efforts to increase part-time work as a means to reduce personnel costs while avoiding layoffs (see chapter 4).

Total working time mirrored both the decline in the number of employees

Chart 1

Banking employment in Austria since the start of EMU



Source: OeNB, Eurostat.

[6] *The contemporaneous Pearson correlation coefficient of total employment with GDP growth for 1998 to 2014 (annual data) is 0.71, whereas it is 0.64 for banking.*

[7] *The share of female employees in banking has been stable in recent years, amounting to 52.4% in 2015, which is higher than in the economy as a whole (46.9%).*

and the significant rise in the part-time ratio.[8] Panel (b) of chart 2 compares the evolution of employment measured in persons (blue line, based on OeNB data, like in the previous chart) to working hours actually worked (national accounts data) and to full-time equivalents (FTEs). The evolution from 1998 to 2008 is somewhat unclear: Whereas national accounts data point to a steady increase in hours worked until the onset of the crisis, the FTE data decrease first before they start increasing in 2004. Since 2008, the data have consistently pointed to a decline in working time that was stronger than the fall of employment measured in persons. Put differently, the share of hours worked in banking continuously dropped from around 2.3% in 2008 to currently2%.

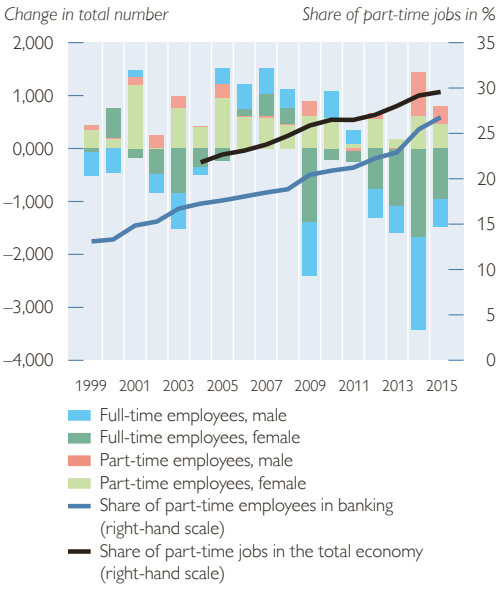
1.2 High job stability

Despite the decreasing number of bank employees, bank employment has so far been characterized by a high degree of stability. Bank employees tend to be with their current employer for a relatively long time. Chart 3 displays tenure categories for three broad sectors (industry, private services, public services) and for banking (NACE division K64) in three different years (2004, 2009, 2015). In banking, the share of new employees (tenure: less than one year) is lowest (which is consistent with low hiring) while its share of employees in the top tenure category (20 years or more) is highest (exceeding 30%), indicating high job stability. The chart also indicates that the share of employees in the highest tenure category has risen

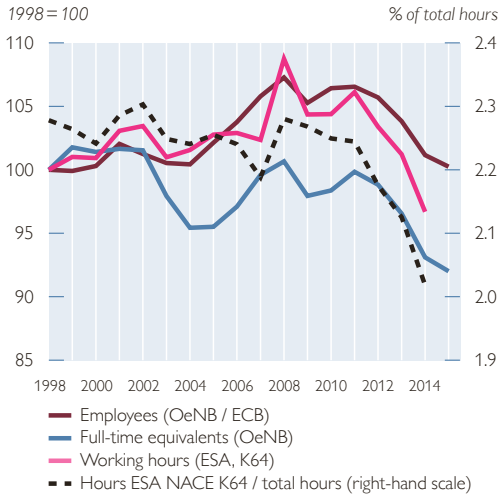
Chart 2

The evolution of working time since 1998

(a) Full-time and part-time jobs



(b) Persons, hours and full-time equivalents



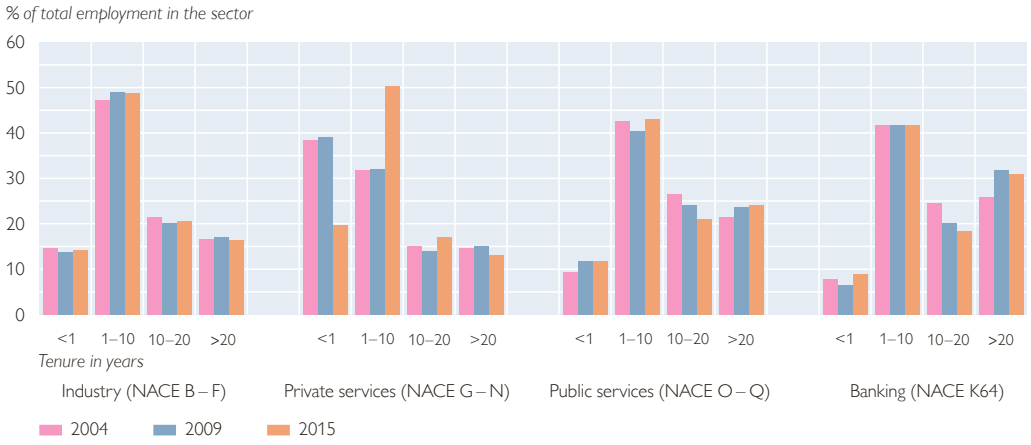
Source: OeNB, Eurostat.

Note: Part-time employment data include minor jobs.

[8] *The reduction in the number of employees and the increase in part-time jobs are probably not the only reasons why overall working time in banking has decreased. Working time also appears to have decreased in full-time jobs: According to the Labour Force Survey, the share of workers working overtime decreased from 37% in 2008 to 22% in 2015.*

Chart 3

Tenure in banking in comparison to other sectors in selected years



Source: Statistics Austria (Labour Force Survey).

by about 10 percentage points over time.

Employees in banking are older on average than those in the total economy. The age gap has widened since the onset of the crisis, with the average age of banking employees rising faster than that of other employees between 2008 and 2015, bringing the average age of banking employees to 42.1 years in 2015 as compared to 39.7 years for other employees. Chart 4 displays the age distribution developments for male and female employees separately for 2008 and 2016. It shows that the age distribution in financial services was and remains concentrated at relatively higher ages than in the total economy.[9] Between 2008 and 2016, the age distributions shifted to the right due to population aging. Moreover, the number of employees aged 20 to 35 years fell more strongly in banking than in the economy as a whole.

As a result of the high job stability in banking, unemployment affects former bank employees comparatively rarely. The Austrian public employment service (AMS) registers the number of unemployed and, additionally, those unemployed persons who are enrolled in training courses. The number of jobless persons who were previously employed in banking has risen since the crisis, widening from 1,157 in 2008 to 2,044 in 2015. These numbers imply that the unemployment rate in banking (including the number of persons in AMS schooling) increased from 1.4% to 2.6% between 2008 and 2015. Compared to the overall increase of the unemployment rate in the same period (from 7.2% to 10.6%), unemployment in banking is still very low.

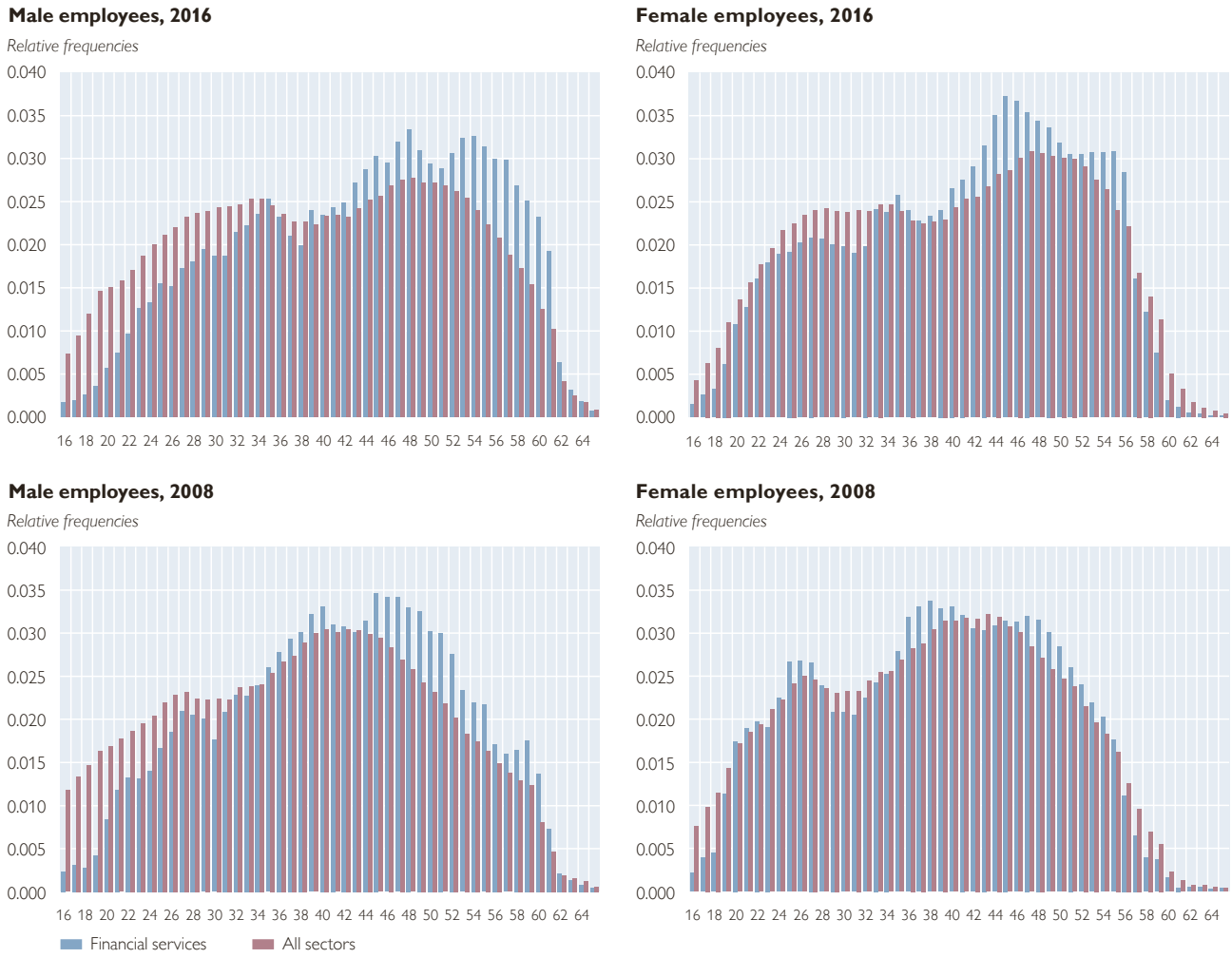
1.3 Highly educated banking workforce

Employees in banking have higher educational attainment than the average employee: The share of employees that are graduates from higher secondary schools is very high, and the share of those with tertiary degrees is relatively

[9] *The age distribution data refer to the end of January 2008 and January 2016, respectively. The presented average age numbers include the (very small) number of employees who work(ed) beyond the age of 65 years; we disregard these employees in the chart.*

Chart 4

Age distribution of employees in financial services in comparison to the total economy: 2016 vs. 2008



Source: Austrian Ministry of Labour, Social Affairs and Consumer Protection.

Note: Data refer to K64 end of January of the respective years. Employees over the age of 65 are not included.

high and rising (chart 5).[10] The shares of employees with an apprenticeship completion certificate or other lower secondary education are significant but shrinking, and very few employees have only a primary education.

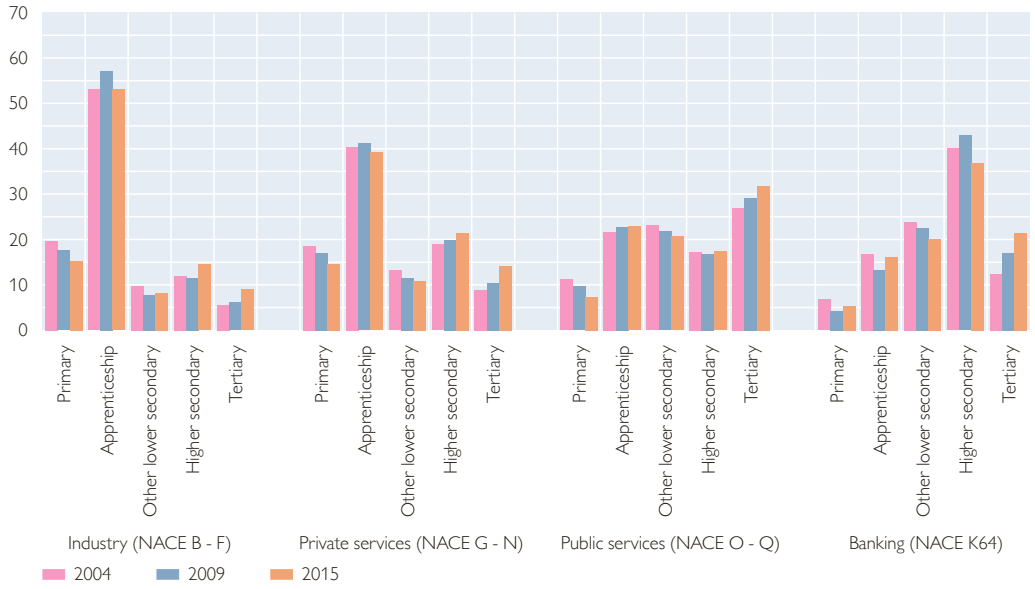
Chart 6 shows the distribution of employment among occupational categories. Blue-collar workers (the three occupational groups on the right) play only a minor role in banking. The sector employs relatively many highly skilled workers, especially professionals, but also many technicians and associate professionals. Clerical support workers, who may be regarded as medium-skilled workers, constitute the largest group, currently 36%, in banking.

[10] *Philippon and Reshef (2007, 2013) hypothesized that by enabling a variety of financial innovations, the deregulation of financial markets increased the demand for labor in the financial sector, both in terms of quantity and even more in terms of quality, as more sophisticated financial products required more complex expertise and specialization.*

Chart 5

Level of education of employees in banking in comparison to other sectors

% of all employees in the sector

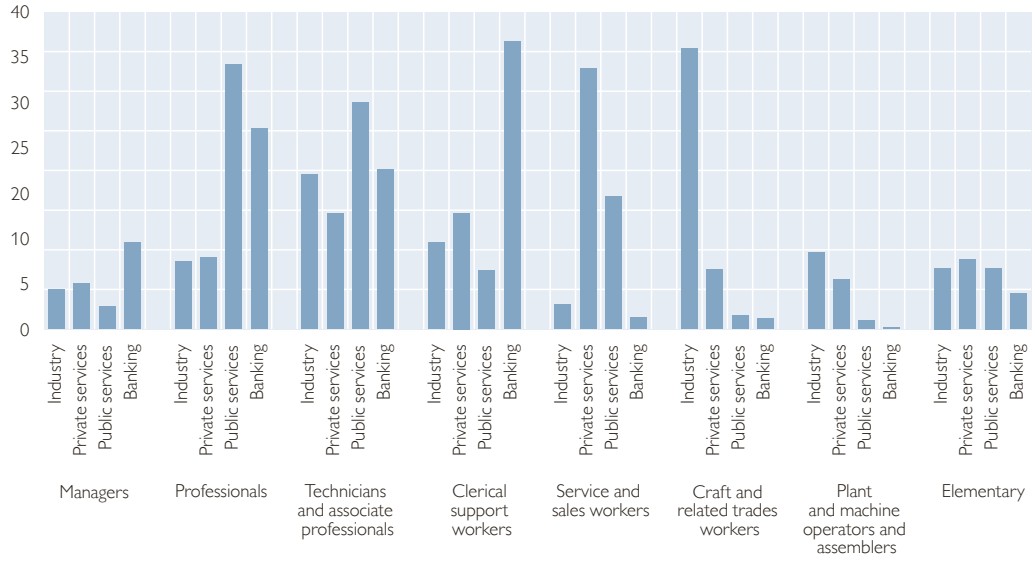


Source: Statistics Austria (Labour Force Survey).

Chart 6

Occupational groups in banking in comparison to other sectors (2015)

% of total employment in the sector



Source: Statistics Austria (Labour Force Survey).

Note: ISCO 08 classification (without ISCO 6).

2 Labor costs and productivity

2.1 Banking has high labor costs ...

Compensation per employee (a measure of total labor costs) amounted to EUR 75,663 in 2014, whereas it was between EUR 40,000 and EUR 50,000 in industry, private services and public services. Hence, mean labor costs in banking were substantially higher than average throughout the period from the start of the third stage of EMU to 2015 (see the start of the first set of rows in table 1, nominal compensation per employee).[11] This is consistent with the predictions of human capital theory: As we have seen, banking employees (1) have higher educational attainment, (2) are older (they have greater overall work experience), and (3) have longer tenure (thus have more firm-specific human capital) than employees in other sectors.[12]

In the second set of rows (real compensation per employee at constant prices), table 1 reveals that mean real labor costs in banking rose more strongly than those in other sectors from 1998 to 2015. This holds for both the 1998 to 2008 period and the period after 2008, although real labor cost growth slowed down after the onset of the crisis, again reflecting the trend toward higher educational levels and ages.

Panel (a) of chart 7 displays the growth rates of compensation per employee in banking in comparison to those in the total economy. Wage cost growth was clearly higher than in the rest of the economy, with particularly strong hikes in 2006 and 2013.[13] Panel (b) shows the evolution of collectively agreed

Table 1

Labor costs in banking compared to broad sectors

	Industry (NACE B–F)	Private services (NACE G–N)	Public services (NACE O–Q)	Banking (NACE K64)
	Nominal compensation per employee (EUR thousand)			
1998	32.7	28.3	33.4	47.2
2008	42.1	35.8	41.1	65.1
2014	47.9	40.5	44.9	75.7
	Average annual growth rates			
1998–2014	2.4%	2.3%	1.9%	3.0%
1998–2008	2.6%	2.4%	2.1%	3.3%
2008–2014	2.2%	2.1%	1.5%	2.5%
	Real compensation per employee (EUR thousand, at constant 2010 prices)			
1998	39.4	34.1	40.3	56.9
2008	43.4	36.9	42.4	67.1
2014	44.8	37.9	42.0	70.8
	Average annual growth rates			
1998–2014	0.8%	0.7%	0.3%	1.4%
1998–2008	1.0%	0.8%	0.5%	1.7%
2008–2014	0.5%	0.4%	–0.2%	0.9%
	Real value added per employee (EUR thousand, at constant 2010 prices)			
1998	66.8	73.9	..	61.3
2008	86.7	82.3	..	97.5
2014	85.1	80.5	..	100.9
	Average annual growth rates			
1998–2014	1.5%	0.5%	..	3.2%
1998–2008	2.6%	1.1%	..	4.8%
2008–2014	–0.3%	–0.4%	..	0.6%
	Real value added per hour worked (EUR thousand, at constant 2010 prices)			
1998	39.5	44.3	..	39.1
2008	51.8	50.5	..	62.1
2014	52.6	52.1	..	67.0
	Average annual growth rates			
1998–2014	1.8%	1.0%	..	3.4%
1998–2008	2.7%	1.3%	..	4.7%
2008–2014	0.3%	0.5%	..	1.3%
	Nominal unit labor costs			
1998	0.49	0.38	..	0.77
2008	0.49	0.44	..	0.67
2014	0.56	0.50	..	0.75
	Average annual growth rates			
1998–2014	0.9%	1.7%	..	–0.2%
1998–2008	–0.1%	1.3%	..	–1.4%
2008–2014	2.5%	2.4%	..	2.0%

Source: Eurostat, authors' calculations.

Note: Price index: GDP deflator.

[11] *Differences in working time are not a major reason for the difference: In 2014, total hours worked in financial services amounted to 1,506. The number for the total economy was 1,550.*

[12] *Pay schemes in banks also tend to be strongly age-related. For example, the collective agreement in banking (joint-stock and private banks) has nine tenure brackets in each of the seven occupational groups (from persons performing simple routine tasks up to managers or experts specialized on complex tasks). According to this agreement, bank employees can expect their salary to rise over the course of 20 years even if they are not promoted to a higher occupational level.*

[13] *These hikes, especially the one in 2013, are probably related to staff restructuring, resulting in "golden handshakes" and similar employment termination payments (see section 4.3).*

minimum wages, as measured by the index of agreed minimum wages ("Tariflohnindex"). Collectively agreed minimum wages are relevant for two reasons: First, they set minimum pay levels for different occupations and tenure classes in banking. Second, the annual increases of minimum pay are often used to adjust the *actual* pay levels every year.

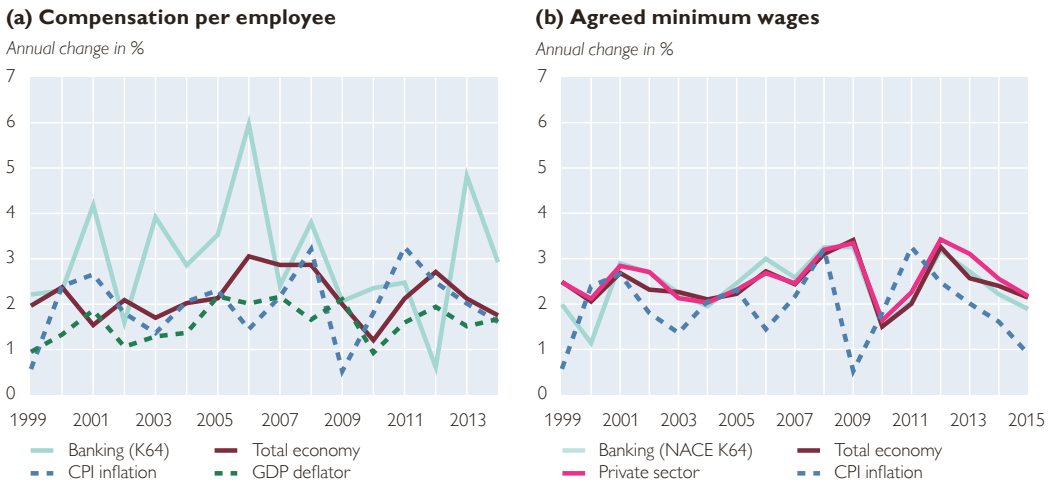
Panel (b) indicates that the high growth of actual labor costs was not caused by particularly large increases of collectively agreed wages. Increases of collective pay in banking[14] were mostly very similar to those of the total economy. From 2001 to 2009, collectively agreed wages in banking mostly rose somewhat more strongly than those in the private sector. After 2010, increases in collectively bargained wages were consistently lower in banking than in the private sector, probably reflecting cost pressures in the wake of the Austrian banking sector's problems and the resulting deterioration of unions' bargaining position. Comparing the development of actual labor costs and collectively agreed minimum wages suggests that labor costs were mainly driven by structural factors within the banking workforce.

2.2 ... but also high labor productivity

High earnings levels such as those in banking need not necessarily constitute a cost problem. What matters is the relation of labor costs to productivity, i. e. unit labor costs (ULC). In other words, ULC measure by how much labor cost growth exceeds productivity gains.

Chart 7

Wage growth in banking and in the total economy



Source: Eurostat (national accounts), Statistics Austria, authors' calculations.

[14] *The index of agreed minimum wages ("Tariflohnindex") for NACE K64 is available only for the years after 2006 (index 2006). For the wage increases up to that year, we use a weighted average (index weights) of the five relevant single series that are subcomponents of the index 1986 (joint-stock and private banks, savings banks, agricultural credit cooperatives, industrial credit cooperatives, Austrian Postal Savings Bank).*

Real gross value added[15] per banking employee showed above-average growth rates[16] especially in the period before the crisis.[17] After the crisis, growth slowed down markedly, but remained well above average output growth in the other sectors (the third set of rows in table 1, real value added per employee).

Productivity in banking was also above average when measured as output per hour worked. Real value added per hour rose from EUR 39 in 1998 to EUR 67 in 2014. Thus, the banking sector's labor productivity is higher than that of the overall economy (70% in 2014). This spread widened until 2009 and narrowed somewhat thereafter. On balance, labor productivity growth in the banking sector surpassed the output gains in industry and in private services both before and after the crisis (the fourth set of rows in table 1, real value added per hour worked).

The last set of rows in table 1 displays ULC figures. In contrast to the other sectors, banking exhibited clearly negative ULC growth from 1998 to 2008, which means that the relatively high growth of labor costs in this period was surpassed by even higher productivity gains. After 2008, the growth of compensation per employee in banking was somewhat stronger than productivity growth, leading to positive ULC growth rates (2% a year on average). But ULC growth was still relatively low in banking compared to that in other sectors.

3 Banking employment in an international perspective

To put the Austrian situation in perspective, the development of banking employment in a number of European countries, based on employment data from the ECB and working time data from Eurostat, is shown in chart 8.[18] The data are shown as an index; the year in which the respective time series had its maximum in the period under consideration is chosen as the base year. In countries like Germany, the Netherlands and Belgium, the reduction in the

[15] *Without exploring the issues surrounding the measurement of banks' contributions to GDP, it has to be kept in mind that national accounts do not take into account the risk associated with lending activities. Thus, an increase in banking sector value added may simply be the result of additional risk taken by the banks. Therefore, as far as these pre-crisis income gains in the banking sector reflected increased risk-taking and not a growing market for banking products, they proved to be only temporary. See Basu et al. (2011) and Haldane et al. (2010), who estimate for the U.S.A. and the U.K., respectively, that adjusting for risk would reduce the measured output of the financial sector substantially. Moreover, in national accounts, the value of bank lending and deposit-taking services (for which no explicit charges are levied) are estimated by the so-called FISIM (Financial Intermediation Services Indirectly Measured), supposing that these services are paid for as part of the margin between rates applied to savers and borrowers. However, the FISIM cannot be deflated by means of a price deflator. Rather, the stocks of loans and deposits on which interest margins are based are revalued using a general price index (such as the GDP deflator, the deflator of domestic final demand, and the overall CPI; see Eurostat, 2001). Therefore, developments in the deflator for value added in the banking sector to a large extent reflect developments in the overall price level.*

[16] *We disregard public services here because value added in the public sector is difficult to measure. Thus, in national accounts, net value added is simply equated with compensation of employees.*

[17] *Real value added is nominal gross value added (defined as the value of gross output less the value of its intermediate consumption), deflated by the price index (implicit deflator). It refers to a given territory. Therefore, transferred profits stemming from production in foreign countries (e. g. from subsidiaries of Austrian banks in Central and Eastern Europe) do not affect Austrian gross value added. In the period between 2004 and 2009, real value added even grew by 7.4% a year.*

[18] *As no data are available for the number of hours worked in the banking sector (K64) for many countries, data for the whole financial sector (banking and insurance; NACE K) are displayed in addition. In the countries for which both time series are available, the data move very much in tandem, so the trend – if not the absolute number – for the financial sector as a whole is likely to provide an approximate indication of the development in the banking sector.*

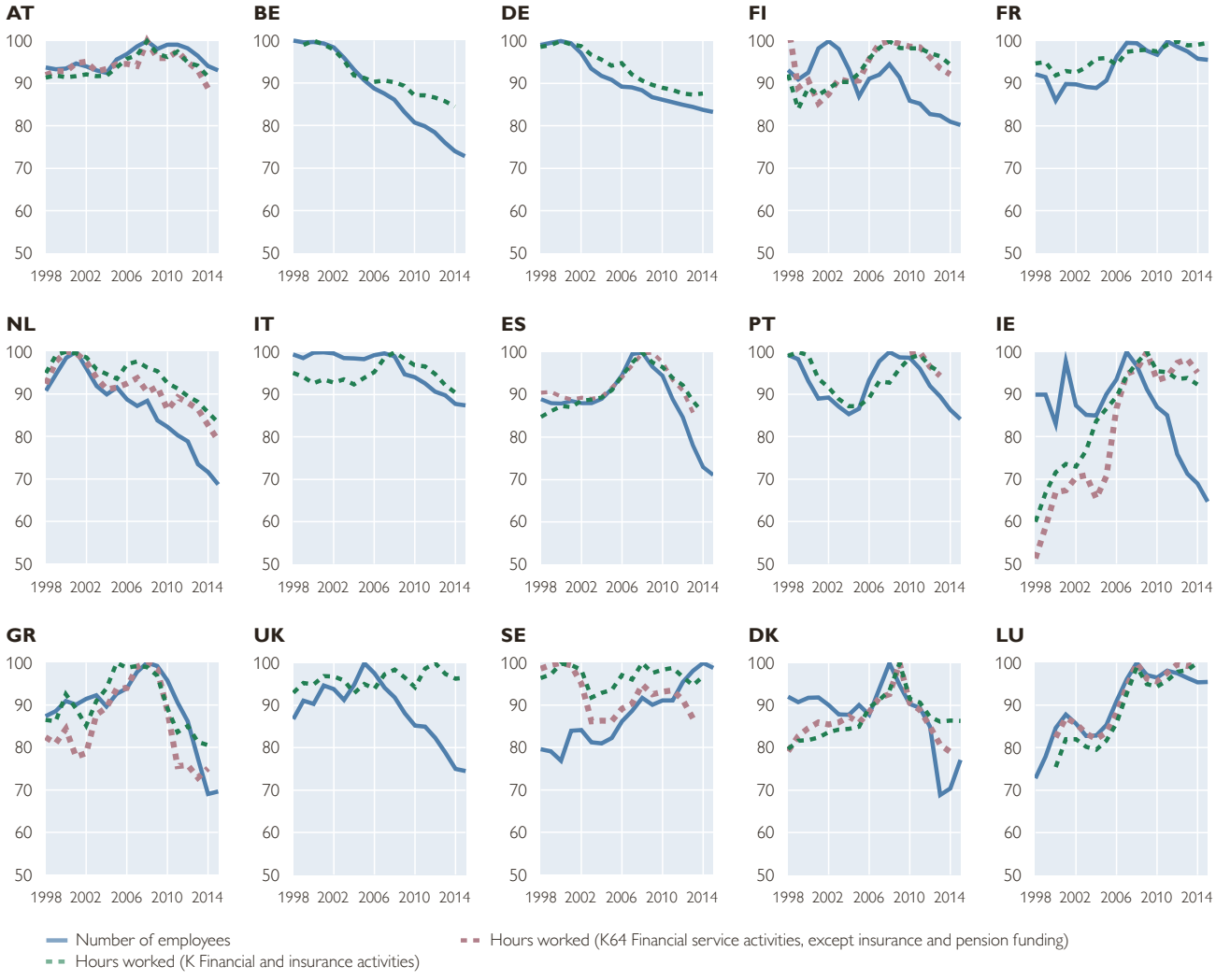
number of employees already started at the turn of the millennium. The effect of the crisis is highlighted by the fact that between 2008 and 2015, the number of employees declined by about 7% in the core EMU countries, whereas the decline reached more than 20% in the countries more directly affected by the crisis. In Austria, together with France and Sweden, the number of bank employees as well as the number of hours worked in the financial sector was still close to its historical peak in 2015.

The 6.9% decline in bank employment in Austria since 2008 was moderate in an international perspective. Across the EU, the decrease since the crisis amounted to 395,000 employees or more than 12%. This difference between Austrian and international developments was all the more noticeable, as many other countries did not have the significant increase in bank employment in the run-up to the crisis that Austria experienced. Moreover, the expansion of Austrian banks in CESEE could actually

Chart 8

Number of employees and hours worked at banks

Index (100 = MAX [1998, 2015])



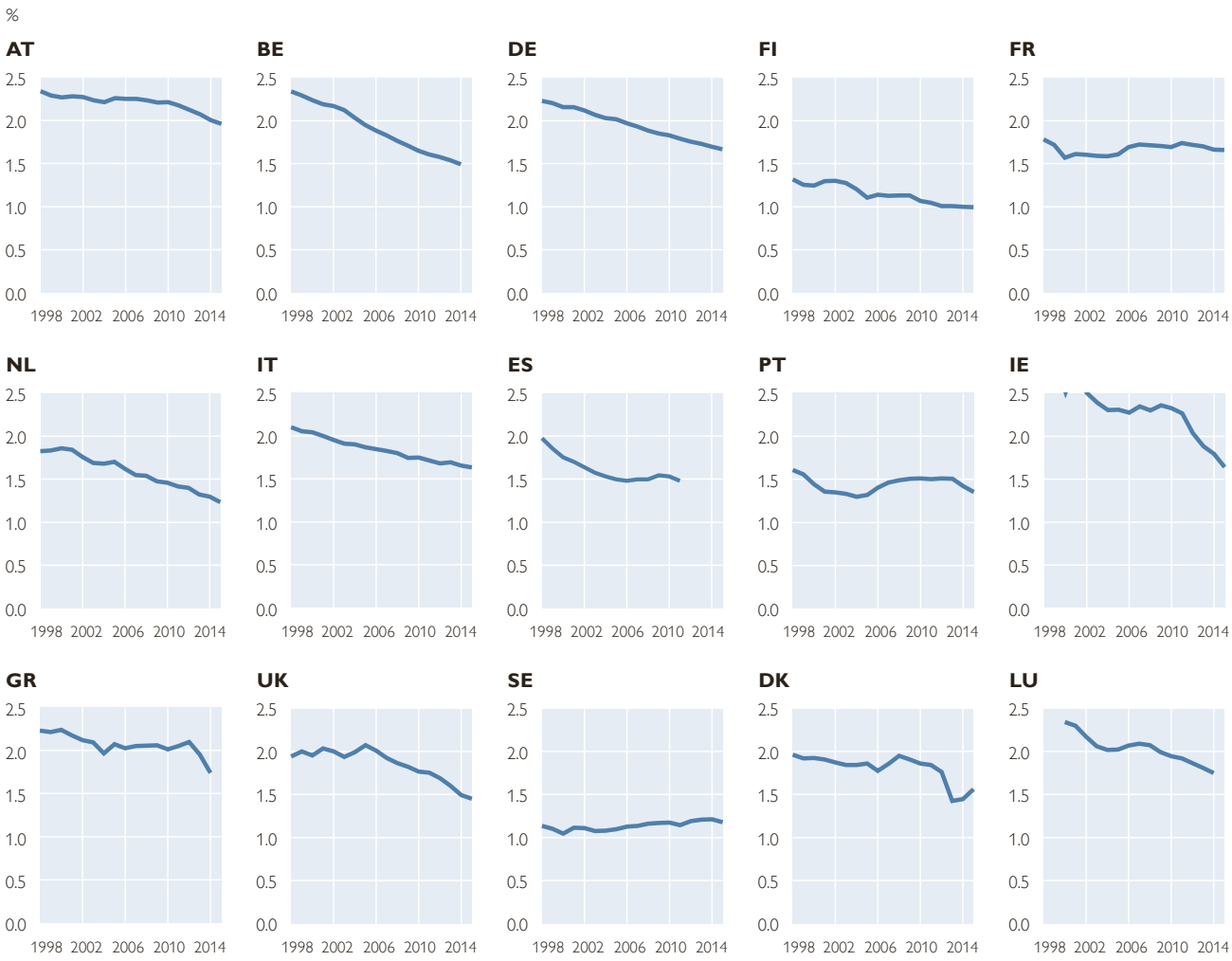
Source: ECB, Eurostat, authors' calculations.

have played a major role in delaying the general trend of reducing employees in banking, mainly because staff was needed for banks' operations in that region.

The share of part-time workers in the Austrian financial sector is comparably high. Labour Force Survey data indicate that in the whole EU, 13.9% of employees in the financial sector worked part-time in 2014, against 24.2% in Austria. Not only does this constitute one of the largest shares of part-time employees in the EU (only in the Netherlands was it higher at 31.7%), but this share also rose faster in Austria than in most other European countries. Between 2008 and 2014, the share of part-timers increased by 6 percentage points in Austria compared to 1.7 percentage points in the euro area as a whole. Combining a moderate reduction in the number of employees and an above-average increase in the share of part-time employees implies that the reduction in hours worked was somewhat more pronounced in Austria than the decrease in the number of workers, although in an international comparison the reduction in hours worked was still quite low: During the whole period

Chart 9

Share of bank employees in total employment



Source: ECB, Eurostat, authors' calculations.

under review, the number of hours worked in the financial sector rose slightly between 2000 and 2013 (+0.3%) in Austria, whereas it fell by 2.4% in the euro area.

In 2015, Austria exhibited the second-highest share of bank employees in total employment among the countries presented; only Luxembourg showed a (considerably) higher share (see chart 9). The Austrian share is so large because Austria started into EMU with one of the highest ratios of the countries under review; moreover, the number of banking employees in Austria declined at a rate below the euro area average until the onset of the crisis. Since 2011, however, this relation has reversed, and the ratio has dropped faster in Austria. Obviously, not only the dynamics of the denominator (that is, bank employment) but also that of the numerator (total of employment) have played a role.

4 Possible drivers of labor demand in the banking sector

4.1 The role of technology

Advances in technology affect banks' labor demand through several avenues. On the one hand, technological changes may lead to the substitution of capital for labor. For example, automated teller machines (ATMs) and cash sorters have replaced tellers. Even more importantly, IT has simplified back-office administration and risk assessment considerably (Craig, 1997), and electronic banking has enabled banks to provide customer services with less manpower. IT-driven innovations may also entail greater economies of scale, which in turn reduce the demand for labor (Berger, 2003). On the other hand, not all IT investments have led to a substitution of labor by capital. IT applications are complementary to complex tasks, thus increasing the demand for more highly skilled workers, while in routine activities, IT substitutes labor.[19] Today, banking employees must be able to fulfill more tasks than their predecessors, from conducting a transaction to offering sophisticated financial advice. Thus, changes in job content prompted by technological change and the obsolescence of formerly relevant skills may generate a demand for new types of skills in banking employees.

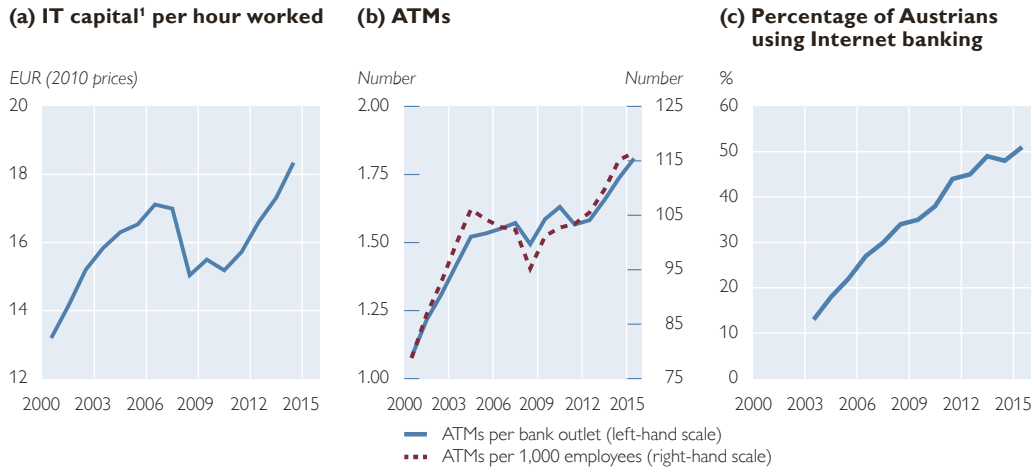
When computing became widespread in the 1960s, banks were early adopters of IT. For an indication of the banking sector's intensity of IT use, we refer to Eurostat's national accounts data, which break down gross fixed assets by industry and by type of asset. From this dataset, we take information and communication technology (ICT) equipment, computer software and databases to represent IT capital. We use net values, that is, the value of fixed IT-related assets less their depreciation, valued at current replacement costs and deflated by the implicit price deflator for this capital category. Between 1999 and 2014, the banking sector's real IT capital rose by 44%.[20] Relating the amount of IT capital available to the hours worked gives an indication of the sector's "IT capital intensity." As panel (a) in chart 10 shows, banks' IT intensity increased over the 15 years to 2015, interrupted only at the onset of the crisis: Whereas between 1999 and 2007, the amount of

[19] *This is an example of a wider phenomenon known as job polarization (see Autor, 2015), where computerization leads to an increase in the demand for highly skilled labor as well as low-skilled workers (in services), on the one hand, but to a decrease of the demand for medium-skilled workers performing routine task. Job polarization can be observed in many countries (Goos et al., 2014).*

[20] *The structure of IT capital shifted from equipment to software as the latter's share rose from below 60% in 1999 to 86% in 2014.*

Chart 10

Indicators of IT use in banking



Source: Eurostat, ECB, OeNB.

[1] *ICT equipment and computer software and databases.*

IT capital per hour worked rose by 4.3% annually in real terms, the real annual growth rate came down to 1.1% in the 2008 to 2014 period.

However, data on banks' IT capital does not cover IT spending that is outsourced to external suppliers (see below). Thus, a somewhat cruder but nevertheless often used indicator of banks' IT usage is the rise of ATMs. The growth of the ATM network, which was introduced in Austria in 1980, still has not showed signs of slowing. Between 2000 and 2015, the number of ATM terminals grew by 48% (or 2.6% annually) to 8,744.[21] The ascent of ATMs was accompanied by a steady reduction in the number of bank outlets (head offices and branches) from 5,479 in the year 2000 to 4,096 in 2015. Thus, the ratio of ATMs to bank outlets augmented from 1.08 in 2000 to 1.81 in 2015. Likewise, the ratio of ATMs to employees rose from 79 to 116 (per 1,000 employees) over the same period. The pattern is the same as with ICT capital, which featured a strong increase that was interrupted only by the onset of the crisis. Additionally, the percentage of Austrians who use internet banking quadrupled from 13% in 2003[22] to 51% in 2015.[23,24]

Another challenge the banking sector is currently facing is the advent of new internet competitors, usually referred to as financial technology (fintech) companies. Over the past decade, existing companies in several industries (ranging from music to travel to transportation) have come under severe pressure from Internet competition. In principle, new digital technologies have the potential to reshape the entire value-

[21] *However, not all ATMs are run by banks.*

[22] *This was the first year for which Eurostat collected relevant data.*

[23] *According to a survey, approximately 40% of Austrians used mobile banking in 2013 (Zeh and Buchinger, 2013).*

[24] *Technological developments in the banking sector can be expected to be accelerated by financial technology (fintech) companies. In the past few years, a host of internet-based enterprises seeking to enter the market for financial services have sprung up to provide new applications, processes, products or business models. Intensified competition from fintech companies represents a potential threat for banks and could lead to a loss of business volumes (and revenues) with corresponding consequences for bank employment. For the impact of fintechs on banks and payment systems, see for example box 3 in Financial Stability Report 31, p. 45 (OeNB, 2016).*

added chain of existing financial products and services. The question is whether and to which extent this also is going to happen in the banking sector and how it will affect the job market in the banking sector. While fintechs might be able to react faster to changing customer needs and thus potentially disrupt current business models, they also address customer groups that are currently not served by banks. Moreover, fintechs could become new distribution channels for banks and could reduce operating costs by using innovative technologies.

4.2 Organizational changes in banking

Labor demand has been affected by organizational changes at the level of individual banks. These organizational changes may reflect developments in the market for banking products. For example, rising wealth led to more consumption of banking products per customer, and changing customer preferences gave rise to a range of new products, such as the provision of advisory services in the sale of funds and insurance rather than the acceptance of savings deposits. Thus, a greater number of customers seeking e.g. to invest more wealth or to take out more loans have demanded more skill-intensive financial products. A special factor in Austrian banking was the *expansion of Austrian banks into the Central, Eastern and Southeastern European (CESEE) region,* although its overall effect on employment in the domestic entities of the banking sector is not easy quantify. Since the involvement of Austrian banks in this region usually served to develop and expand local markets, it is likely to have had positive effects on employment in Austria:[25] The headquarter functions of the domestic entities imply a growing workload in areas such as investment, human resources and risk management, accounting and compliance.[26] Furthermore, while subsidiaries performed most of the banking business in these new markets, the domestic entities of the Austrian banking groups also conducted more foreign business, in many cases complementing the financing and other services of the foreign operations. The CESEE earnings might also have alleviated pressures to reduce costs (and thus, staff) in the (much less profitable) domestic operations. Yet, there may have been labor substitution effects between parent banks and their affiliates, for example in the area of outsourcing (see below).[27]

In contrast, there can be no doubt that the ongoing *consolidation process* within the Austrian banking sector has reduced labor demand. Between 2000 and 2015, the number of independent

[25] *The number of foreign nationals in the banking workforce also rose from 3,700 or 4.8% of all bank employees in 2008 to 6,000 or 8.4% in 2015. This trend appears to reflect not only the opening of the Austrian labor market for workers from CESEE but also the growing internationalization of banking. Non-nationals in financial services fall into three groups of roughly the same size, namely into workers from the EU-14, from the new Member States in the CESEE region (the EU-10 plus Bulgaria, Romania and Croatia) and from non-EU countries. The latter group exhibits the most dynamic growth.*

[26] *One indication of the magnitude involved might be inferred from media reports that about 500 employees could be affected by UniCredit's decision to transfer direct control of Bank Austria's CESEE subsidiaries to the Italian headquarters. Of these 500 persons, between about 250 and 300 are directly involved in the control of the CESEE subsidiaries of Bank Austria; additionally, roughly 200 employees work for the bank holding. If that figure is any indication of the approximate size of the number of employees that work for the CESEE units in the other large Austrian banking groups, then bank employment in Austria directly related to the CESEE operations might be in the order of several thousands.*

[27] *However, the empirical evidence in the related literature on the effects of FDI does not provide a clear picture, especially not for the services sector. Looking at the home market effects of outward FDI into the CESEE region, Falk and Wolfmayr (2008) found limited evidence for the substitution of jobs between the parent companies in the EU-15 and their affiliates in CESEE between 2000 and 2004.*

banks fell from 923 to 739, affecting the banking sector's demand for labor in several ways, from avoiding duplicate information technology infrastructures, or entire branches that are in close geographical proximity to each other, to eliminating redundancies resulting from the integration of back-office and general services.

Moreover, like banks in other countries and like other sectors, Austrian banks have increasingly resorted to *outsourcing* various activities in recent years. Outsourcing encompasses not only support activities such as IT services, procurement, accounting, real-estate agency services, call centers, catering, cleaning or security services, but also activities more closely related to "core banking" activities, like payment processing, lending and securities transactions. According to a survey on outsourcing conducted among union representatives in banks in June 2013 by the Austrian Chamber of Labour (GPA-djp, 2014), "classical" contracting out to external firms appears to be the most important strategy (60% of all cases included in the survey). But outsourcing could also happen to "internal" operations, which are shifted e.g. into a subsidiary that is fully owned by the outsourcing bank, a different subsidiary or a holding company to which the bank belongs. Thus, "internal" outsourcing might be part of the restructuring process of Austrian banks mentioned above. Both "external" and "internal" outsourcing may happen to domestic or foreign firms. Outsourcing to foreign firms often takes the form of nearshoring to countries in Central and Eastern Europe.

The principal aim of outsourcing is to reduce costs, primarily personnel costs: External contractors tend to have lower earnings levels than the outsourcing banks. But even "internal" outsourcing to Austrian firms may reduce labor costs because other collective agreements may apply to the outsourced entities, for example the agreement for IT services or for crafts and trade services ("Allgemeines Gewerbe"). Outsourcing may also enhance efficiency[28] and may support the achievement of strategic aims. Moreover, outsourcing may also have the aim – especially in IT – to improve the quality of services obtained. Sometimes, getting access to specialist knowledge also plays a role (see Konschalla, 2013, for outsourcing in banking in Germany).[29] In terms of the overall evolution of employment in banking, the trend toward outsourcing implies that while "direct" employment in the banking sector has receded, the number of persons working indirectly in or for the banking sector in various support services may well have risen. However, no comprehensive data are available.[30]

[28] *Critics point out that outsourcing also involves many risks, such as a lack of control of the activities of, and increasing dependence on, external service providers, more complex decision-making structures and more complicated internal audits (see GPA-djp, 2014).*

[29] *Moreover, technological progress played a crucial role in the increase of outsourcing. On the one hand, IT enabled and facilitated outsourcing, as for example new ways of secure data transmission facilitated outsourcing to call centers. On the other hand, technological development raised the pressure for outsourcing, as IT services are not part of banks' core competencies.*

[30] *However, anecdotal evidence on "internal" outsourcing of various banks, especially of IT service firms, suggests that there has been a considerable increase of "indirect bank employment" in Austria. UBIS Austria (UniCredit Business Integrated Solutions) is a subsidiary of UBIS in Italy, which in turn is a subsidiary of UniCredit. UBIS Austria, which was founded in 2004, currently employs 1,800 staff, most of whom (about 1,500) are former employees of Bank Austria. UBIS Austria mainly delivers IT (but also back-office) services to Bank Austria, including services for operations in the CESEE region.*

4.3 Outlook

Over the past few years, many banks have announced restructuring programs. But until recently, pressure to dismiss large numbers of employees appears not to have been very strong: In most cases, even those Austrian banks which have reduced employment seem to have refrained from layoffs, resorting to attrition (see section 1.2) and early retirement schemes instead (see Mayer et al., 2001, for the 1990s). This development probably reflected the rather consensual industrial relations in Austria. Compared to enterprises in other countries, Austrian firms are relatively reluctant to lay off workers and rather try to reduce working time instead. Company surveys confirm this tendency (Kwapil, 2009). Indeed, according to media reports, many banks have introduced programs to induce workers to share jobs and to work part-time when labor demand is low (the working time developments described in section 1.1 corroborate these reports).

Austrian banks have also avoided dismissals because employment protection provisions are comparatively strong: Nonterminable employment contracts for employees with more than 10 years of service were in place in the savings bank sector until end-2008, making layoffs impossible in many cases. Moreover, many banking employees have relatively high tenure and would thus be entitled to receive large severance payments if they were laid off.[31]

Many observers (including bank managers and unions) expect that banks will start to reduce personnel more actively. As a consequence, the most recent collective agreement of March 2016 includes a resolution to negotiate the terms of a labor foundation for bank employees that facilitates retraining of redundant workers. Early retirement and "golden handshakes" will probably be used more actively in the near future. Specifically, almost 2,800 employees of UniCredit Bank Austria have expressed their willingness to leave the bank under the conditions offered by the bank. These comprise mostly consensual terminations of employment contracts in combination with extra severance payments. About 2,000 employees will actually leave in the coming years, 1,000 of which will leave until the end of 2017 (Der Standard, 2016a and 2016b). For Austria as a whole, both the OeNB (OeNB, 2015) as well as other institutions, such as the public employment service, expect that employment in banking will be further reduced in the coming years. However, labor market statistics will probably not show the full amount of this decrease because in a number of cases, employees are dismissed from their duties but are still kept on the payroll (Arbeitsmarktservice Österreich, 2016).

5 Summary and conclusions

Since the onset of the crisis, the Austrian banking sector has faced a host of challenges that have led banks to accelerate their consolidation activities. In recent years, consolidation has begun to feed through to employment. Organizational measures ranging from bank mergers to the outsourcing of various activities to outright restructuring programs announced by a number of banks have reduced the demand for labor. In a first step, banks reduced the number of hours worked per person by sharply in-

[31] *Many employees in banking are entitled to severance payments under a scheme that no longer applies to newly hired employees. Under this scheme, they receive severance payments in the order of 9 monthly salaries (for employees with a tenure of 20 years or more) or 12 monthly salaries (for those with a tenure of more than 25 years).*

creasing the part-time ratio. Only in the past few years was this trend toward part-time work accompanied by a reduction in the number of employees, mainly through attrition, while banks have mostly avoided layoffs so far. However, as novel an experience as these reductions in the number of workers or the total amount of hours worked may be for the Austrian banking sector, in an international perspective, they have been rather muted so far, implying that there might be room for further reduction in bank employment.

Apart from changes in the quantities of labor, the quality of the demand for labor in banking has undergone changes, too. The advances in technology and the increase in IT intensity in the banking sector in the past decades has not only led to the substitution of labor for capital, but also to a demand for more highly skilled labor, substituting clerical support workers with more highly specialized staff. The rising number of graduates employed by the financial sector that now exceeds the share of such skilled labor in the overall economy may well be explained by these requirements.

Earnings in banking are relatively high, but so is the value of human capital. Compared to employees in other sectors, employees in banking have high educational attainment, more tenure and are older. As long as higher earnings levels are related to higher productivity levels, they do not necessarily constitute a cost problem. However, as compensation per employee has grown more strongly than productivity since the onset of the crisis, ULCs in banking have exhibited positive growth (which was still below ULC growth in the other sectors). Again, this might entail a further decrease in bank employment.

Structural change in the banking sector will help make the banking sector more resilient, and an efficient and productive banking system is an essential prerequisite for financial stability. Therefore, raising bank productivity by reducing redundancies in employment and by increasing the productive use of labor certainly constitutes a major contribution to the stability of the financial system, so that from a financial stability perspective, the issue of employment is undoubtedly a major cost factor. But at the same time, greater labor efficiency is also relevant for the question of how banks fulfill their economic role – and in a wider context for the development of Austria as a financial center. Thus, a mere look at headcount or personnel costs disregards the fact that banks rely on their employees to retain (or enhance) their competitive position. In this vein, sheer staff reduction is but one instrument that Austrian banks will have at their disposal to increase productivity. Other avenues to enhance bank performance are the reallocation of staff within the bank as well as retraining and other skill-enhancing measures.

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Annex

Employment in banking: a brief guide to the data sources

OeNB bank employment data. Data on the number of employees are collected by the OeNB on a regular basis and published annually. These data comprise the total number of employees as well as the number of full-time employees and part-time employees. The data exclude employees on (parental) leave and in military service as well as OeNB employees. Blue-collar workers are also excluded. Moreover, every quarter, all Austrian banks report the size of their workforce in terms of full-time equivalents for the asset, income and risk statement (formerly Quarterly Report).

ECB bank employment data. The OeNB data form the basis for input into the ECB's database on annual banking structural statistical indicators. However, the ECB includes only credit institutions that are classified as "monetary financial institutions" (MFIs). ECB data also exclude EU Member State credit institutions (defined according to Article 9, Austrian Banking Act); total employment in these credit institutions numbered 869 employees at the end of 2015.

National accounts employment statistics (ESA 2010). We derive data on employment (persons) and working time (hours worked) from the national accounts. In principle, annual data are available at the level of the NACE division K64 (financial service activities, except insurance and pension funding). However, working time data of some countries are missing, so we use NACE section K (financial and insurance activities) data for the international comparison in section 3. National accounts data also provide information on actual working hours, average labor costs and value added.

The European Union Labour Force Survey (LFS). Apart from employment and working time (normal working hours such as full-time and part-time employment), Eurostat's LFS provides information on the level of educational attainment and on the length of tenure in the current main job. The LFS is a household survey; the subsample for banking is rather small. Thus, the results for banking may be affected by sampling errors and unexplained changes from year to year.

Social security and other administrative data for Austria. These data deliver information on employment (social security data from the Association of Austrian Social Security Institutions, HSV), but also on unemployment, schooling, and on vacancies (from the public employment service, AMS). The employment data refer to standard contracts.[32] Administrative data provide information on personal characteristics such as gender, nationality or age. Social security employment numbers refer to jobs, whereas the other sources refer to persons. Because the sectoral statistics exhibit a time series break between 2007 and 2008 (change from ÖNACE 2003 to ÖNACE 2008), we use mostly data from 2008 onward.

Table A1 gives an overview of the main characteristics and differences between the various data sources available for banking employment. Chart A1 shows the evolution of employment according to all sources mentioned. Apart from the erratic movements (and implausibly high level) of employment in the LFS series, all data sources consistently indicate an increase in employment up to 2008 and a decrease thereafter.

[32] *Standard contracts are equivalent to employees with full social insurance, including apprentices. Other social security statistics show that minor jobs ("geringfügige Beschäftigung") and freelance contracts ("Freie Dienstverträge") play a rather small role in financial services. On average in 2015, 2,400 persons were marginally employed, down slightly from 2,500 in 2008. Even fewer persons are engaged under freelance contracts: Fewer than 300 of these contracts were reported in 2015, less than half the corresponding number in 2008.*

Table A1

Characteristics of employment data by data sources

	OeNB	ECB	National accounts (ESA)	Labour Force Survey (LFS)	Social security data
Banking sector definition	OeNB definition	ECB definition	NACE K64	NACE K64	NACE K64[1]
Bank employment data include the OeNB	no	no	yes	yes	yes
Data refer to persons or jobs	persons	persons	persons	persons	jobs
Annual data refer to year-end or period average	end of year	end of year	period average	period average	period average
Nonstandard contracts included	yes	yes	yes	yes	no[2]
Blue-collar workers included	no	no	yes	yes	yes
Data are based on full census or sample	full census	full census	full census	sample	full census
Employment data include employees on leave	no	no	employees on parental leave or in military or alternative service included	employees on parental leave included	employees on parental leave or in military or alternative service included
Working-time information available	full/part time and FTE	full/part time and FTE	actual hours	full/part time (actual hours)[3]	no
Restrictions in time period (1998–2015)[4], time series breaks	no	no	no	We use only data from 2004 (time series break).	Time series break between 2007 and 2008

Source: OeNB, ECB, Eurostat, HSV, Statistics Austria.

[1] *For the years from 2008 on, NACE 4-digit employment statistics are available in the BALI database of the BMASK, which allow a more exact delimitation of the banking sector.*

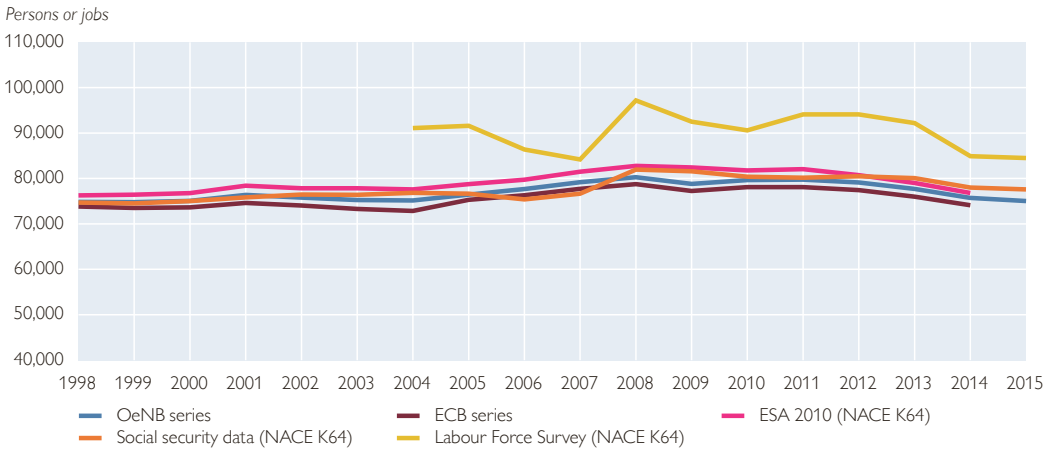
[2] *Data on minor jobs are available in separate social security statistics.*

[3] *The LFS provides only actual weekly hours worked in the reference week.*

[4] *As of end-July 2016.*

Chart A1

Banking employment according to various data sources



Source: OeNB, ECB, Eurostat, HSV, Statistics Austria.