Finance

Sectoral study

Trends in terms of occupations and skills

In collaboration with:

and with contributions from:

Federation for Recruitment Search & Selection

November 2021

Introduction (1/2)

In an increasingly complex labour market, driven by technological, environmental and societal transitions, the skills gap is a major concern for governments, businesses and society as a whole.

In-depth analyses of the trends in occupations and skills of the Luxembourgish labour market are crucial in order to better understand, anticipate and address this skills gap. In this context, the Ministry of Labour, Employment and the Social and Solidarity Economy (MTEESS) and the Public Employment Service (ADEM) have initiated sectoral studies, which are part of ADEM's Future Skills Initiative and the partnership for employment between ADEM and the Luxembourg Employers' Association (UEL).

Work conducted in the ADEM/UEL partnership working groups has confirmed the lack of data (comprehensive and of good quality) on skills in demand and available in Luxembourg (and in the Greater Region), both in public administrations and in the private sector. ADEM currently has the richest data on this subject, stemming from the job vacancies that are declared by companies and from matching indicators between vacancies and jobseekers. It should be noted that this data is limited to the job vacancies actually declared to ADEM, which does not cover all the vacancies in Luxembourg, despite the legal obligation to declare every vacancy. Our sectoral studies are therefore not pretending to be representative of the Luxembourgish labour market as a whole; they are a first attempt at a granular and extensive analysis to create more transparency on this particular market.

The sectoral studies cover seven sectors: 1) finance, 2) industry, 3) construction, 4) hospitality/horesca, 5) commerce, 6) transport and logistics, and 7) crafts. In order to validate the conclusions from the analyses (especially given that the data is not comprehensive of the whole market), ADEM collaborated with the corresponding employers' organisations that represent each sector. For this sectoral study of the financial sector, ADEM thanks the ABBL, ALFI and ACA for their collaboration and fruitful exchanges, as well as the FR2S for their insightful contributions.

Introduction (2/2)

Each sectoral study includes 1) an introductory chapter with the definition of the sector's scope and an overview of key figures, 2) a summary of qualitative trends in the sector (technological, societal and other), 3) an analysis of trends in occupations (key occupations, growing and declining occupations, shortages) with a list of occupations to be prioritised and audiences to be targeted for reskilling/upskilling, 4) an analysis of the in-demand skills in the sector's job offers, and 5) a glossary.

The target readers of these studies are both employers, who will find a benchmark of the situation and trends in their sector, and employees/jobseekers who will be able to better adapt to these trends.

The findings of our studies should help us to:

- introduce new instruments to address the skills gap;
- define and implement targeted training/upskilling/reskilling actions;
- guide career choices;
- develop the national skills strategy (which is currently handled by the *Skillsdësch* with the support of the OECD).

These sectoral studies are only a starting point. They will of course have to be complemented by and confronted with other analyses carried out through new ADEM collaborations or by different actors in the ecosystem.

Isabelle Schlesser
Director of ADEM

Perspectives of ABBL, ALFI and ACA (1/2)

"Being aware of the challenges a sector is facing is depending on an analysis of sectoral trends which highlight the major challenges that await us regarding human skills. This is why the ABBL is grateful to ADEM for conducting such a study.
The rapid evolution of the job market in the financial sector, and banking in particular, driven by increasing digitalisation, accelerated by the Covid crisis, means that the sector is constantly changing and looking for more specialised profiles.
In addition, the particularly heavy regulatory burdens in the financial sector have led and continue to lead to a significant increase in the number of positions in banks' compliance and risk management departments.
The trends also show that the search for talent is no longer limited to the Greater Region (Luxembourg and neighbouring countries) but has expanded internationally.
Finally, this study proves more than ever that the need for more specialised profiles requires tailored and increasingly specialised training to meet the challenges of the future."

Yves Maas
Director of the ABBL

Perspectives of ABBL, ALFI and ACA (2/2)

Camille Thommes
Director General of ALFI

"As the representative association of the investment fund and collective management sector, ALFI particularly welcomes the initiative of public authorities to carry out a sectoral mapping of the Luxembourgish labour market. These studies allow us to better understand the future needs in terms of talent as well as the numerous and diverse skills that need to be acquired in a constantly changing environment."

"The ACA, the voice of Luxembourg-based insurers and reinsurers, would like to thank and congratulate ADEM for the study on the trends in the insurance and reinsurance sector. The digitalisation of many professions is accelerating, the technical know-how required is increasing and the way of working is changing, and this is not only because of the health crisis. The activities of insurers and reinsurers are also becoming more and more regulated and complex.
All of these factors influence the skills required of employees working with insurers and reinsurers.
The study will help guide employers as well as employees."

Marc Hengen
Managing Director of the ACA

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1. Definition of the sector and key figures

Definition of the sector

For this sectoral study, the sector is defined according to the NACE code, the European Statistical Classification of Economic Activities. The financial sector is defined by the NACE category K.

Section	Division	Libellé	Nombre d'entreprises
K		**Activités financières et d'assurance**	**1.255**
	64	Activités des services financiers, hors assurance et caisses de retraite	185
	65	Assurance	287
	66	Activités auxiliaires de services financiers et d'assurance	783

Source : https://statistiques.public.lu/catalogue-publications/repertoire/2020/repertoire-entreprises-luxembourgeoises.pdf

Code **64** includes: 64.1 (**Monetary intermediation**), 64.2 (**Activities of holding companies**[1]), 64.3 (**Trusts, funds and similar financial entities**), 64.9 (**Other financial service activities: leasing...**).

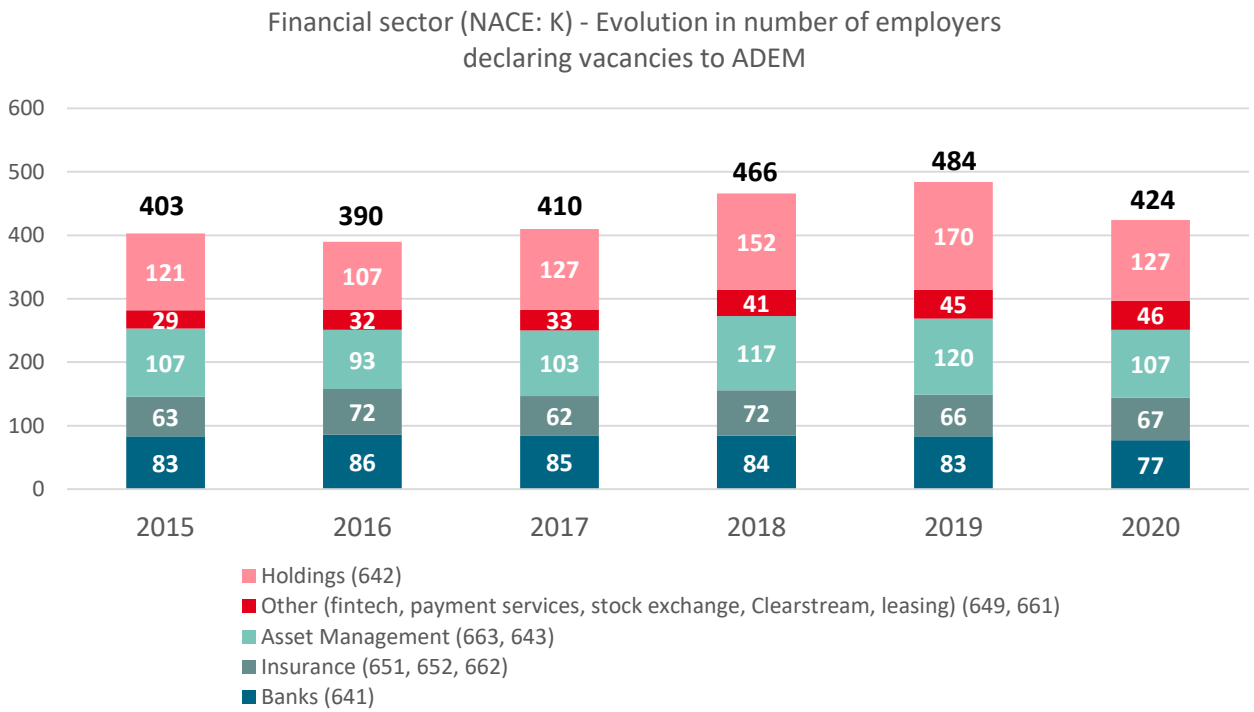
Code **65** includes: 65.1 (**Insurance**), 65.2 (**Reinsurance**)

Code **66** includes: 66.1 (**Activities auxiliary to financial services**, such as payment services, brokerage/securities, fintech, stock exchange...), 66.2 (**Activities auxiliary to insurance**) and 66.3. (**Fund management activities**).

[1] Holding companies cover a wide range of activities (not necessarily related to the financial sector) and will therefore be excluded from the analyses in Chapters 3 and 4.

ADEM's key figures of the sector (1/2)

Our analysis in this study is based on job vacancies reported to ADEM by employers in the financial sector (NACE category K).
The following graph illustrates the number of employers in the sector who have reported job vacancies to ADEM, and the evolution of this number over the 2015 - 2020 period.
For ease of reading, we have redefined the categories of the sub-sectors: *Banks (NACE code 64.1), Insurance (65 + 66.2), Asset Management (66.3, 64.3), Holdings (64.2)*[1], *Other (64.9, 66.1).*
Of the 1,255 companies active in the financial sector in 2020[2], 424 reported vacancies to ADEM. Holding companies (including SOPARFIs) carry the most weight, followed by asset management companies and banks.



The total number of employers reporting vacancies increased from 2016 to 2019. This is primarily driven by holding companies/SOPARFIs and fund management and administration companies. This number then decreased in 2020, in the context of the pandemic. The number of banks remained rather stable and the number of insurance companies fluctuated slightly.

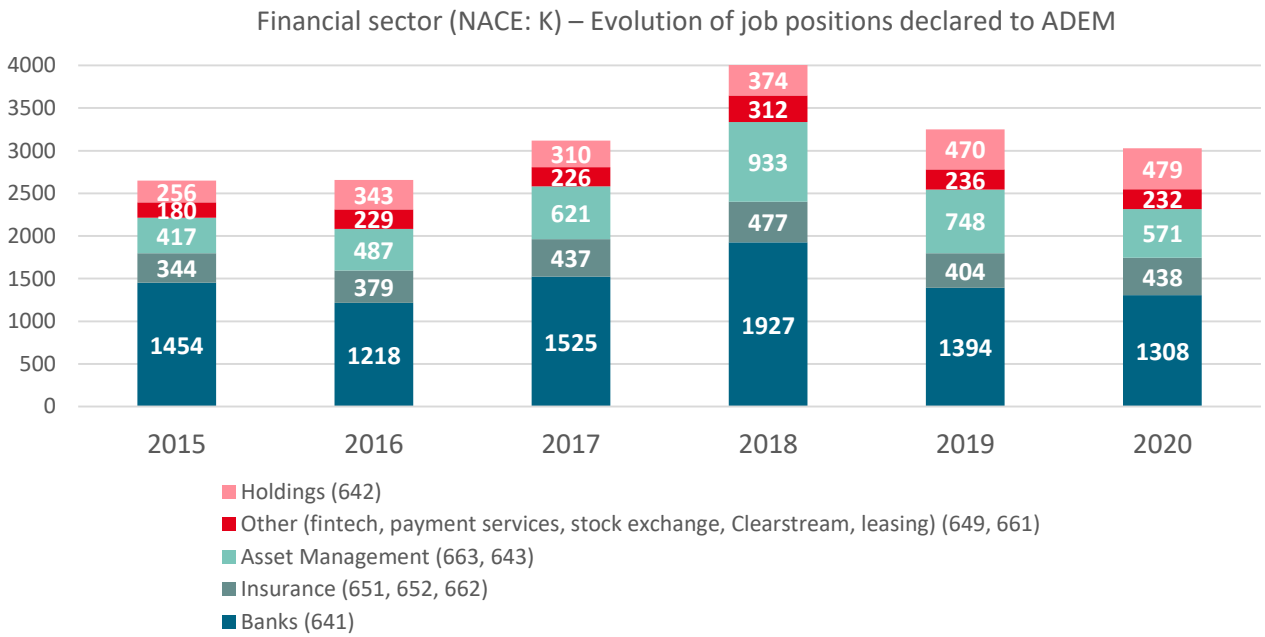
Source: job vacancies declared to ADEM

[1] Holding companies cover a wide range of activities (not necessarily related to the financial sector) and will therefore be excluded from the analyses in Chapters 3 and 4.

[2] https://statistiques.public.lu/catalogue-publications/repertoire/2020/repertoire-entreprises-luxembourgeoises.pdf

ADEM's key figures of the sector (2/2)

Let us now look at the evolution of the number of job positions declared by these employers, excluding positions related to employment measures. Jobs declared via private recruitment agencies are also excluded as they fall under a different sector.
The growth in declared jobs in the financial sector was significant between 2016 and 2018, followed by a decline in 2019 and 2020. The pandemic appears to have had less of an impact in the financial sector on the number of declared positions compared to other sectors.



Job positions declared to ADEM (excluding employment measures)	2015	2016	2017	2018	2019	2020
K - FINANCIAL AND INSURANCE ACTIVITIES	**2651**	**2656**	**3119**	**4023**	**3252**	**3028**
Banks (641)	1454	1218	1525	1927	1394	1308
Insurance (651, 652, 662)	344	379	437	477	404	438
Asset Management (663, 643)	417	487	621	933	748	571
Other (fintech, payment services, stock exchange, Clearstream, leasing) (649, 661)	180	229	226	312	236	232
Holdings (642) [1]	256	343	310	374	470	479

By comparison, actual recruitment in the sector (based on the entry declarations that employers make to the Centre Commun de la Sécurité Sociale (CCSS)) was 12,410 in 2018, 12,250 in 2019 and 10,160 in 2020.[2] This difference is explained by the fact that a recruitment is not necessarily preceded by a vacancy publication, and that not all vacancies are declared to ADEM (despite the legal obligation).

Source: job vacancies declared to ADEM

[1] Holding companies cover a wide range of activities (not necessarily related to the financial sector) and will therefore be excluded from the analyses in Chapters 3 and 4.

[2] https://adem.public.lu/fr/marche-emploi-luxembourg/faits-et-chiffres/statistiques/igss/Tableaux-interactifs-flux-emploi.html

2. Sectoral trends

Experts' perspectives

ADEM Employer Advisors for the financial sector

"In the financial sector, there are some important trends to highlight. We note that digitalisation, automation and robotisation are progressing in the financial sector in Luxembourg. Customers are becoming more used to online banking and have increasing expectations. As a result, and in an attempt to reduce fixed costs, many bank branches are closing down. Jobs requiring fewer qualifications (call centre, back-office, etc.) continue to be relocated. At the same time, traditional banks are facing increasing competition from FINTECHs, where a process of mergers and acquisitions (and thus concentration) is taking place. BREXIT has created a fierce "battle" between the major financial centres in the EU zone (Amsterdam, Paris, Frankfurt, Dublin, Luxembourg) and companies are relocating their activities. Finally, the ongoing implementation of new, increasingly stringent and costly international regulations will continue to weigh on the results of companies operating in the financial sector. These trends go hand in hand with changing labour and skills requirements."

ACA

"We are seeing a trend towards more specialised jobs and more advanced qualifications.
Digitalisation, information technology, IT security and Big Data are the technological trends.
At the business level, we see an increased need in the areas of compliance, Environmental, Social and Governance (ESG) and risk management.
Customer expectations and thereby customer service are driven by increased digitalisation. Personal advice remains important, as does the reduction of response times."

Sarah Hartmann, Legal Advisor, ACA

ALFI

"The investment fund industry is evolving in a rapidly changing European and international context and is characterised by increased competition between financial centres. The increasing complexity of the regulatory framework, the evolution of investment products (e.g. alternative, ESG) as well as the digitalisation affecting the entire value chain require a constant need for talent and a constant upgrading of skills (upskilling and reskilling).
On the basis of ALFI's contacts with its members, and also largely confirmed by this present study, needs of our sector focus in particular on the following profiles, both for reasons of volumes and because of a shortage of profiles for certain functions where the number of positions is still limited. These profiles include: KYC/AML and compliance analysts, ESG experts, risk managers, accountants, IT and financial analysts, portfolio managers and conducting officers of asset management companies (with a managerial profile), lawyers, specialists in new technologies (DLT, blockchain) and cyber security."

Camille Thommes, Managing Director, ALFI

ABBL

"In addition to digital transformation, which favours highly qualified profiles in IT, project management and cybersecurity, to name but a few, environmental and social issues are also stimulating the creation of new professions (sustainable finance experts, CSR coordinators, ESG risk managers, etc.). These new professions are driven by the new regulatory constraints in the area of sustainable finance and will make it possible to meet the future needs of the market and investors as well as the expectations of clients."

Catherine Bourin, Member of the Management Committee, ABBL

Main trends (1/2)

Technological trends

- Automation at the counters and of administrative tasks
- Digital-only banks (Transferwise, N26, Revolut...)
- Personalisation and Big Data: knowledge of customers' expectations, preferences, behaviour and difficulties, anticipation of their needs
- Chatbots for communication with the customer
- Potential of blockchain in the fund industry
- Collaboration between traditional companies and fintechs
- Sensitive data → importance of cybersecurity
- More collaboration/proximity between business and IT
- Outsourcing of certain IT activities considered less strategic (system administration, helpdesk, storage, etc.)

Societal trends

- Speed and ease: client onboarding, making a transfer, increasing the limit of bank cards, etc.
- Trend of transparency on credit conditions (customers want to compare conditions of different banks), emergence of brokerage companies (athome finance, etc.)
- Increased investment in crypto currencies, often without the advice of a banker
- The Luxembourgish financial sector mainly serves professional and international clients and is therefore highly dependent on economic and international trends

Environmental trends

- Transition to green and sustainable finance, for professional and private actors and clients
- ESG (environmental, social and governance) management and reporting
- Luxembourg Green Exchange: the world's first listing platform dedicated exclusively to green bonds

Sources: research, exchanges with ABBL/ALFI/ACA and with the fr2s federation

Main trends (2/2)

Economic trends

- Growth in funds and investment companies, especially in the areas of alternatives/PERE (private equity, real estate)
- Brexit: relocation of companies from London to Luxembourg (according to the Minister of Finance, more than 60 financial companies have relocated part of their activities to Luxembourg)
- In 2020, the gross value added (GVA) of the sector remained stable (+1.4% year-on-year in value, +0.4% in volume) [1]
- The recovery of stock markets and investor confidence has allowed Luxembourg's funds to absorb the asset losses caused by the health crisis in February-March 2020
- Possible bankruptcies as a result of the health crisis pose a significant risk to the financial sector (banks and insurance companies)
- Credit/debt products have grown with the pandemic
- Falling premiums on life insurance products

Legal / regulatory trends

- The strengthening of financial sector regulations (such as MIFID, UCITS 5, AIFMD, Fatca, Basel, CRD V...) have forced banks to review their operating model
- Increasingly complex reporting requirements
- The General Data Protection Regulation (GDPR), introduced in 2018, still impacts banks and insurance companies

Employment trends

- Sector heavily dependent on foreign residents and cross-border workers[2]
- Talent war between the world's major financial centres; firms have to work with headhunters to attract talent
- New collective agreement in 2021 for employees in banks and insurance companies
- Working from home, especially in the context of the pandemic

Sources: research, exchanges with ABBL/ALFI/ACA and with the fr2s federation

[1] https://statistiques.public.lu/catalogue-publications/note-conjoncture/2020/PDF-NDC-02-20.pdf

[2] https://adem.public.lu/fr/marche-emploi-luxembourg/faits-et-chiffres/statistiques/igss/Tableaux-de-bord.html

3. Occupation-level analysis

Occupation-level analysis: method

The aim of this chapter is to analyse the composition of the job vacancies in the financial sector in terms of occupations, trends (growth, decline, emergence, stability) in these occupations and the degree of talent shortage. All occupations (sector-specific or transversal) recruited by employers in the sector are considered in this analysis.

This analysis is based solely on ADEM data, i.e. job positions declared to ADEM by employers from the financial sector (cf. page 10). This excludes employment measures and vacancies reported by temporary work agencies ("agences d'intérim") and private recruitment agencies, where we have no information on the employers nor the sector they are attached to.

Vacancies that have not been declared to ADEM are not included in the analysis. We are aware of the limitations of this approach as the vacancies reported to ADEM do not cover all the vacancies/actual recruitments in the market and are therefore not fully representative.

For this reason, we do not draw conclusions on the total number of recruitments in Luxembourg by occupation; we only analyse *relative* figures: the proportion of the different occupations among all jobs declared by the sector, the growth trend of the jobs declared for an occupation, the degree of talent shortage of an occupation by comparing the number of declared vacancies to the number of eligible candidates among jobseekers.

To analyse growth trends, we compare the years when ADEM's coverage rate (of actual market recruitments) remains sufficiently comparable.

Despite these precautions, the relative analyses (proportions, trends, shortages) are still not entirely representative. We have therefore collaborated with the ABBL, ACA and ALFI to confront our data with their knowledge of the reality of the sector. As highly qualified professionals are most often recruited through private recruitment agencies (and therefore not systematically reported to ADEM), we ran the risk of projecting a biased picture of the market, missing certain trends. This is why we also had an exchange with the fr2s (Federation for Recruitment, Search & Selection) who represent private recruitment agencies and thus provide a complementary perspective to ADEM's data.

These collaborations allowed us to place our quantitative analyses into a context and add qualitative input and explanations.

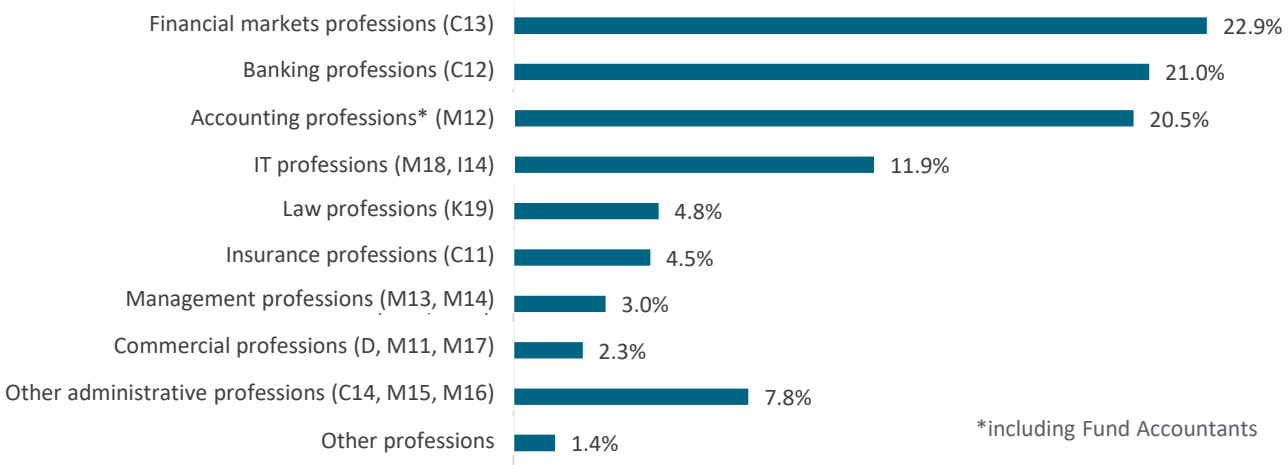
In the future, and in order to considerably improve the reliability of our studies, it is essential that the rate of job vacancies declared to ADEM increases and corresponds better to the actual reality of the labour market. And this not only for the purpose of finding the right candidates, but also to increase the transparency of the labour market and the possibility to analyse real market needs, trends and shortages.

To structure the occupations in our analyses, we base ourselves on the ROME classification, which ADEM has used since 2014 to categorise its vacancies according to a typology of occupations. The ROME classification includes different levels of granularity, and the level used in our analyses varies according to what is considered most useful. For each reference to an occupation ("métier" according to ROME) or function ("appellation" according to ROME) used in this document, a description is provided in Chapter 5.

Distribution across categories of occupations

First, we present the distribution of jobs declared by the financial sector (over the 2015 - 2020 period) across the different occupation categories. These categories are based on the ROME classification.
The graph shows that the sector is mainly composed of the following three categories (each accounting for about 20% of the positions): financial market professions (front-, middle- and back-office), banking professions (client advice, analysis, etc.) and accounting professions (including fund accountants). IT professions represent the 4th category with 12%. The remainder is divided between law professions (5%), insurance professions (4.5%), management professions (company management, project management, etc., at 3%), commercial professions (marketing, sales strategy, etc., at 2.3%) and other administrative professions (secretarial services, human resources, etc., at 7.8%).

Financial sector (NACE: K) - distribution of declared job positions across occupation categories (2015 - 2020)



This distribution differs according to the sub-sector: we can observe for example that insurance companies declare more administrative jobs, while companies with "other" activities (payment services, securities, etc.) are looking for a lot of IT specialists.

Categories of occupations	Banks	Insurance	Asset management	Other
Financial markets professions (C13)	23.4%	5.4%	37.4%	12.3%
Banking professions (C12)	25.8%	15.8%	14.3%	17.6%
Accounting professions (M12)	21.5%	13.7%	24.3%	15.4%
IT professions (M18, I14)	12.7%	9.0%	5.5%	28.1%
Law professions (K19)	4.5%	4.9%	5.8%	3.9%
Insurance professions (C11)	0.2%	29.1%	0.0%	0.5%
Management professions (M13, M14)	3.4%	3.3%	1.8%	3.3%
Commercial professions (D, M11, M17)	1.1%	4.9%	1.4%	7.7%
Other sdministrative professions (C14, M15/16)	6.3%	12.1%	8.3%	8.0%
Other professions	1.1%	1.9%	1.3%	3.2%

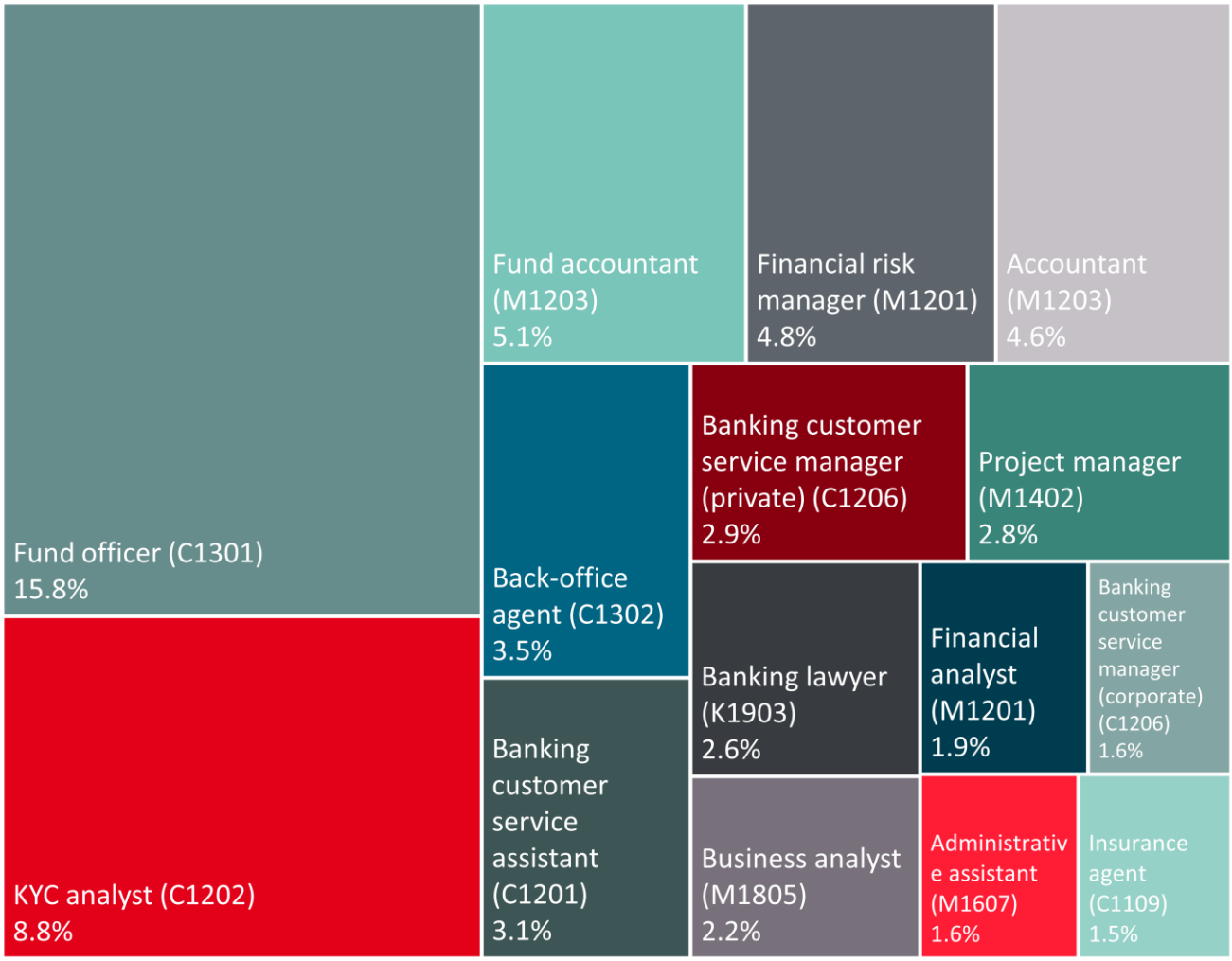
Source: job vacancies declared to ADEM

Most in-demand occupations ("Top 15")

The following illustration shows the "Top 15" most in-demand functions (level 4 of the ROME reference system) as well as their proportional share among all the job positions declared by this sector, over the 2015 - 2020 period.

In 1st place are the fund officers, at 16%; this includes for example functions such as transfer agent, transaction management officer, depositary officer...; unfortunately the ROME does not distinguish in a more granular way between the level (manager, analyst, operator) or the domain (private equity, etc.). The 2nd place is occupied by KYC/AML analysts/ operators (9%). They are followed by 3. fund accountants (5.1%), 4. (financial) risk managers (4.8%), 5. accountants - excluding fund accountants (4.6%), 6. back-office agent (3.5%), 7. banking customer service assistants (3.1%), 8. banking customer service managers (private) (2.9%), 9. project managers (2.8%), 10. banking lawyers (2.6%), 11. business analysts (2.2%), 12. financial analysts (1.9%), 13. banking customer service management (corporate) (1.6%), 14. administrative assistants (1.6%), 15. insurance managers (1.5%).

THE OCCUPATIONS MOST IN-DEMAND BY EMPLOYERS IN THE FINANCIAL SECTOR (2015-2020)



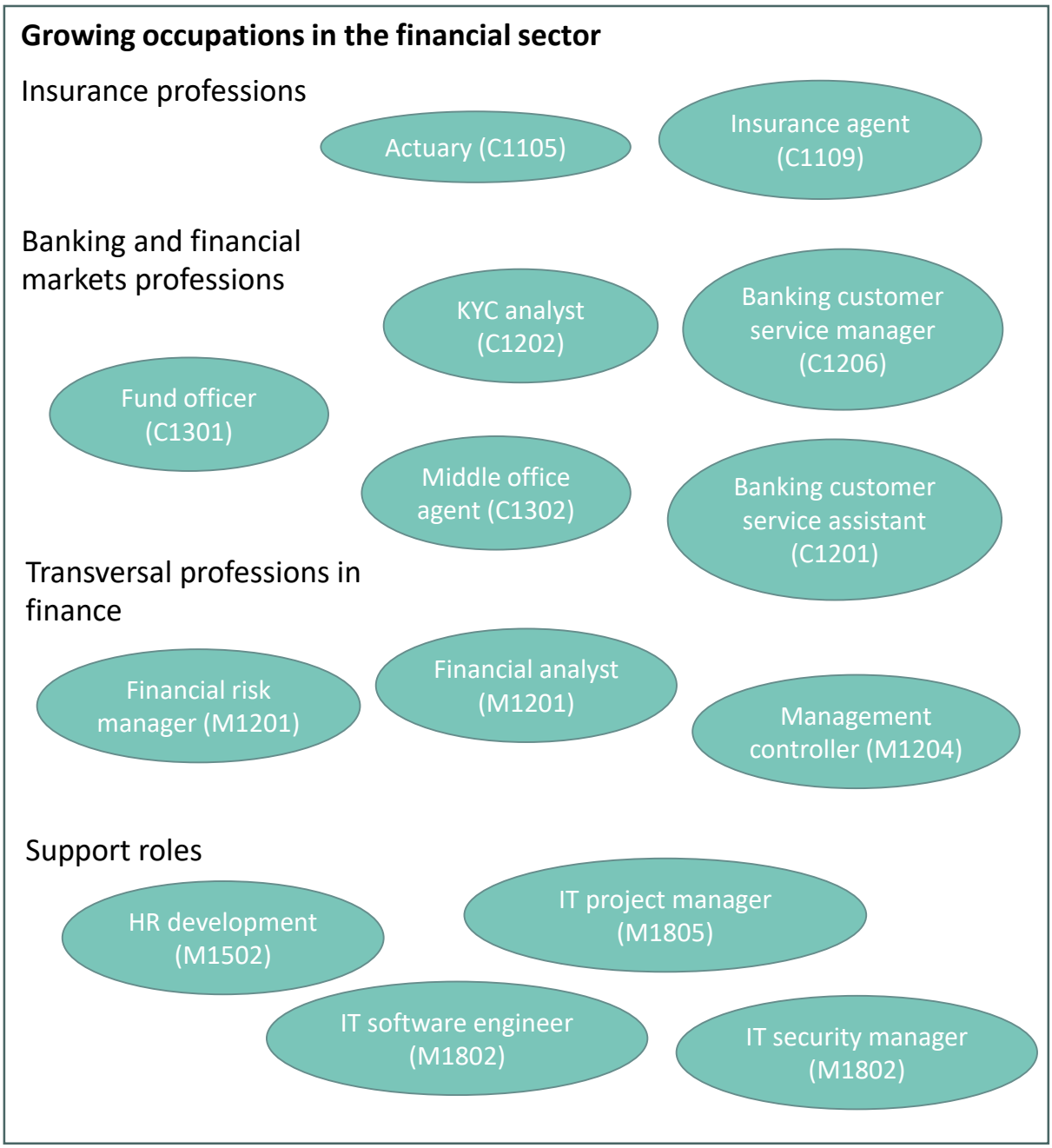
Note: the definitions of the occupations are available in Chapter 5 (ROME Glossary)

Source: job vacancies reported to ADEM (note: risk of a biased picture, as positions for very highly qualified/specialised/executive profiles are not systematically reported to ADEM and are therefore probably under-represented)

Growing occupations (1/5)

Following the analysis of the distribution, we consider the trends (growth, decline, emergence, stability) for the different occupations recruited in the financial sector, starting with growth.
The following illustration shows the 14 occupations for which a growth trend in the demand from employers has been identified, based on the vacancies reported to ADEM.

Growing occupations in the financial sector



Growing occupations (2/5)

Three indicators have been considered for this list:

1. the evolution of the occupation's proportional share among all the jobs declared by the sector;
2. the evolution of declared job positions (illustrated by the Trendline);
3. the contribution to growth between 2016 and 2019, i.e. the rate by which the occupation contributed to the growth of all jobs reported by the sector between 2016 and 2019 (this indicator takes into account both the growth trend and the importance of this occupation to the sector).

The data for the three indicators is detailed below for the 14 occupations for which a growth trend has been identified (given that these conclusions are based on our own judgement, we share the data transparently, allowing the reader to draw their own conclusions).
The trend is also based on a view of the past (2015 - 2020 period) and does not take into account possible developments that could influence the trend in the future.

Insurance professions

Actuary (C1105)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.42%	0.26%	0.46%	0.52%	0.47%	0.63%

Trendline [1]

2015	2016	2017	2018	2019	2020
10	6	13	19	13	16

Contribution to growth [2]

+1.5%

Actuaries, who carry out risk analyses in insurance companies, experienced a growth in reported positions (trendline) between 2016 and 2018, and stabilised thereafter. Their proportion among all the sector's occupations increased again in 2020 compared to other occupations that were less recruited in the context of the pandemic. Their contribution to the growth of all job positions in this sector was 1.5% between 2016 and 2019 (which is a relatively high contribution compared to their proportion in the sector).

Insurance agent (C1109)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
1.51%	1.43%	1.03%	1.40%	1.69%	2.03%

Trendline [1]

2015	2016	2017	2018	2019	2020
36	33	29	51	47	52

Contribution to growth [2]

+3.0%

The need for insurance agents (claims handlers, insurance underwriters, etc.) increased significantly in 2018 and remained fairly stable thereafter. In 2020, their proportion within the financial sector increased again compared to other professions. They contributed 3% to the growth in positions in the sector between 2016 and 2019.

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2020
[2] Contribution of the occupation to the growth of all job positions declared by the sector between 2016 and 2019

Growing occupations (3/5)

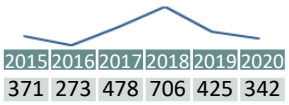
Banking and financial markets professions

Fund officer (C1301)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
15.52%	11.82%	17.03%	19.37%	15.33%	13.52%

Trendline [1]



2015	2016	2017	2018	2019	2020
371	273	478	706	425	342

Contribution to growth [2]

+32.8%

For fund officers (e.g. transfer agents, transaction management officers depositary officers, etc.), recruited by asset management companies but also by banks and fiduciairies, there was significant growth in demand from 2016 to 2018. This was followed by a decline in 2019. The contribution to growth between 2016 and 2019 remains very strong at 32.8%, as the has an important weight in the sector (see page 18). Growth was driven in particular by the dynamism in the alternative/PERE (private equity, real estate) field.

KYC analyst (C1202)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
6.11%	7.49%	8.30%	7.85%	11.14%	11.82%

Trendline [1]

2015	2016	2017	2018	2019	2020
146	173	233	286	309	299

Contribution to growth [2]

+29.4%

The positions for KYC (Know Your Customer) analysts (including anti-money-laundering/AML), recruited by asset management companies, banks, service companies, etc., have seen significant and continuous growth between 2015 and 2019, both in terms of volumes and proportion. As the 2nd occupation in the "Top 15" (page 18), the contribution to growth is very strong at 29.4%.

Middle office agent (C1302)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.46%	0.26%	1.25%	0.99%	1.51%	0.86%

Trendline [1]

2015	2016	2017	2018	2019	2020
11	6	35	36	42	22

Contribution to growth [2]

+7.8%

The number of positions for middle office agents (account administration, reconciliation, reporting, compliance...) in banks and asset management companies has grown, especially between 2016 and 2017, and remained relatively stable afterwards, with a decrease in 2020 (potentially linked to automation trends).

Banking customer service assistant (C1201)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
2.01%	3.07%	4.20%	3.70%	3.35%	2.03%

Trendline [1]

2015	2016	2017	2018	2019	2020
48	71	118	135	93	51

Contribution to growth [2]

+4.8%

After a period of growth from 2015 to 2018 (the contribution to growth remaining significant), the positions of customer service assistants in banks (customer services officer, account officer, client relationship assistant manager, front office support...) have experienced a significant decline to be monitored in the coming years.

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

[2] Contribution of the occupation to the growth of all job positions declared by the sector between 2016 and 2019

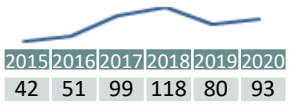
Growing occupations (4/5)

Banking customer service manager (private) (C1206)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
1.76%	2.21%	3.53%	3.24%	2.88%	3.68%

Trendline [1]



2015	2016	2017	2018	2019	2020
42	51	99	118	80	93

Contribution to growth [2]

+6.3%

The (private) banking customer service manager occupations, with titles such as account manager, relationship manager or wealth manager, grew from 2015 to 2018, and became even more significant in proportion in 2020.

Transversal professions in finance

Financial risk manager (M1201)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
5.27%	4.63%	4.31%	4.36%	4.65%	6.10%

Trendline [1]

2015	2016	2017	2018	2019	2020
126	107	121	159	129	154

Contribution to growth [2]

+4.8%

Financial risk managers/analysts (credit risk, business risk, market risk, investment risk, operational risk) are in high demand by banks and asset management companies, but also by payment/securities/fintech service companies. Job positions have increased since 2016 and have contributed 5% to the growth.

Financial analyst (M12021)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
1.26%	1.00%	2.21%	1.67%	2.78%	2.45%

Trendline [1]

2015	2016	2017	2018	2019	2020
30	23	62	61	77	62

Contribution to growth [2]

+11.7%

For financial analysts (+ market analysts, quantitative analysts, business analysts...), recruited in all areas of the financial sector, both number of positions and proportion have increased over the 2016-2019 period, contributing 11.7% to the growth of positions in the sector.

Management controller (M1204)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.46%	0.56%	0.68%	1.59%	1.62%	1.30%

Trendline [1]

2015	2016	2017	2018	2019	2020
11	13	19	58	45	33

Contribution to growth [2]

+6.9%

Management controllers (financial controllers, investments controller, business controllers, etc.) have also been recruited in all areas and grew between 2017 and 2018 in particular. Since 2018, positions have been decreasing slightly, but the contribution to growth has remained positive.

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

[2] Contribution of the occupation to the growth of all job positions declared by the sector between 2016 and 2019

Growing occupations (5/5)

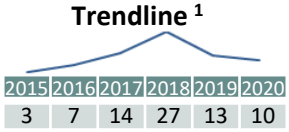
Support roles

HR development (M1502)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.13%	*0.30%*	*0.50%*	*0.74%*	*0.47%*	*0.39%*

Trendline [1]



Contribution to growth [2]

+1.3%

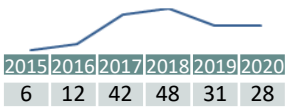
For human resources development functions (recruitment, career and training managers), growth was strong between 2015 and 2018, followed by a slight decline and then a stabilisation of the demand. This trend is also linked to the war for talent being waged by global financial centres.

IT project manager (M1805)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.25%	0.52%	1.50%	1.32%	1.12%	1.17%

Trendline [1]



Contribution to growth [2]

+4.1%

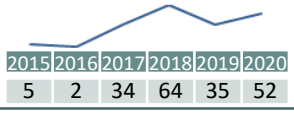
IT project managers have also seen an increase in terms of positions and proportion, particularly between 2015 and 2018. These functions are sometimes outsourced to consultants and therefore the real trends are probably not fully captured in this present study.

Software engineer (M1802)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.21%	0.09%	1.21%	1.76%	1.26%	2.06%

Trendline [1]



Contribution to growth [2]

+7.1%

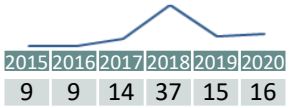
Alongside IT project managers, the occupation of software engineers has also been growing since 2015. In 2020, the proportion of this occupation has increased strongly compared to others. It is also a function that is often outsourced.

IT security manager (M1802)

Evolution of proportion in sector

2015	2016	2017	2018	2019	2020
0.38%	0.39%	0.50%	1.02%	0.54%	0.67%

Trendline [1]



Contribution to growth [2]

+1.3%

And finally, in the face of cybersecurity risks, the positions of IT security managers have also experienced growth. They are supported by various operational roles (examples within the emerging occupations on page 25).

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

[1] Illustration of the evolution of the volumes of job positions declared between 2015 and 2020

[2] Contribution of the occupation to the growth of all job positions declared by the sector between 2016 and 2019

Declining occupations

Other occupations are experiencing a downward trend in terms of volume and proportion in the sector. This is the case, for example, for certain jobs in insurance (B2C/B2B customer advisors, department managers); in banking (bank tellers/receptionists); in various administrative support functions; and in certain IT jobs* (systems administrators, functional analysts, developers).

		Declared positions (2015-2020)	Evolution of proportion in the sector					
			2015	2016	2017	2018	2019	2020
Insurance	Insurance customer advisor (C1102)	2015 2016 2017 2018 2019 2020 57 41 33 30 21 26	2.38%	1.77%	1.18%	0.82%	0.76%	1.03%
	Insurance department manager (B2B) (C1108)	2015 2016 2017 2018 2019 2020 18 14 5 4 4	0.75%	0.61%	0.18%	0.11%	0.14%	0.00%
Banking	Bank receptionist (C1201)	2015 2016 2017 2018 2019 2020 15 8 3 7 9 7	0.63%	0.35%	0.11%	0.19%	0.32%	0.28%
	Bank teller (C1201)	2015 2016 2017 2018 2019 2020 10 2 5 4 2	0.42%	0.09%	0.18%	0.11%	0.00%	0.08%
Administrative support	Back-office administrative clerk (C1401)	2015 2016 2017 2018 2019 2020 23 30 12 26 15 16	0.96%	1.30%	0.43%	0.71%	0.54%	0.63%
	Insurance administrative clerk (C1401)	2015 2016 2017 2018 2019 2020 18 16 10 5 7 3	0.75%	0.69%	0.36%	0.14%	0.25%	0.12%
	Banking administrative clerk (C1401)	2015 2016 2017 2018 2019 2020 57 47 34 16 9 16	2.38%	2.03%	1.21%	0.44%	0.32%	0.63%
	Administrative clerk (M1602)	2015 2016 2017 2018 2019 2020 7 7 3 4 3 2	0.29%	0.30%	0.11%	0.11%	0.11%	0.08%
IT (other explanations to be taken into account*)	IT system administrator (M1801)	2015 2016 2017 2018 2019 2020 20 39 28 20 12 11	0.84%	1.69%	1.00%	0.55%	0.43%	0.43%
	IT functional analyst (M1805)	2015 2016 2017 2018 2019 2020 98 71 50 60 48 41	4.10%	3.07%	1.78%	1.65%	1.73%	1.62%
	IT developer (M1805)	2015 2016 2017 2018 2019 2020 33 69 47 28 19 10	1.38%	2.99%	1.67%	0.77%	0.69%	0.40%

Some of these declines can be explained by digitalisation trends (physical branch closures, impacting bank tellers and potentially insurance advisors) and automation trends, impacting all administrative support roles.

*As for the three IT professions, it is more a case of transitions to other areas rather than a real downward trend. The drop in administrators can be explained by a trend towards outsourcing to external service providers. The drop in functional analysts is also due to outsourcing, but also to the fact that other profiles (project managers, business experts) often cover this activity. The decline in (generic) developers is explained by a trend towards more specialisation, which can by seen by the emergence of more specialised profiles - see next page).

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

Emerging occupations (1/2)

As for emerging occupations, i.e. occupations which were not or hardly in demand in the sector 5 years ago but which are beginning to appear/increase in job vacancies, our data provides some leads.
This is the case, among others, for economists specialised in financial markets, legal assistants, office managers (a general support role particularly in demand in start-ups/small companies), digital product managers, digital marketing managers, as well as numerous occupations specialised in IT (cloud, IT security, business intelligence, Big Data, etc.).

		Declared positions					
		2015	2016	2017	2018	2019	2020
	Financial economist (M1201)	1	2	2	7	10	2
	Legal assistant (K1902)		1	4	11	18	7
	Office manager (M1604)			2	3	10	4
	Product manager (M1703)	1		4	2	4	6
	Digital marketing manager (M1705)			5	7	6	1
IT	Cloud architect (M1802)				1	2	1
IT	Information system architect (M1802)		2	7	19	4	9
IT	IT security architect (M1802)			2	2	2	
IT	IT security auditor (M1802)				5	1	3
IT	Business intelligence analyst (M1805)	2	1	14	10	6	6
IT	Big Data developer (M1805)				2	2	1
IT	Business intelligence developer (M1805)	1	2	3	13	7	22
IT	Full-stack developer (M1805)			1	4	12	13

Sources: job vacancies declared to ADEM, expertise of ADEM employer advisors and the ABBL/ALFI/ACA

Emerging occupations (2/2)

It should be noted that the existing ROME codes are quite fixed in time and are not always granular enough to capture all of the emerging trends. To complete the quantitative analyses of the previous page, we are therefore adding some qualitative input based on exchanges with the fr2s federation. The complementary trends of emergence identified are presented below.

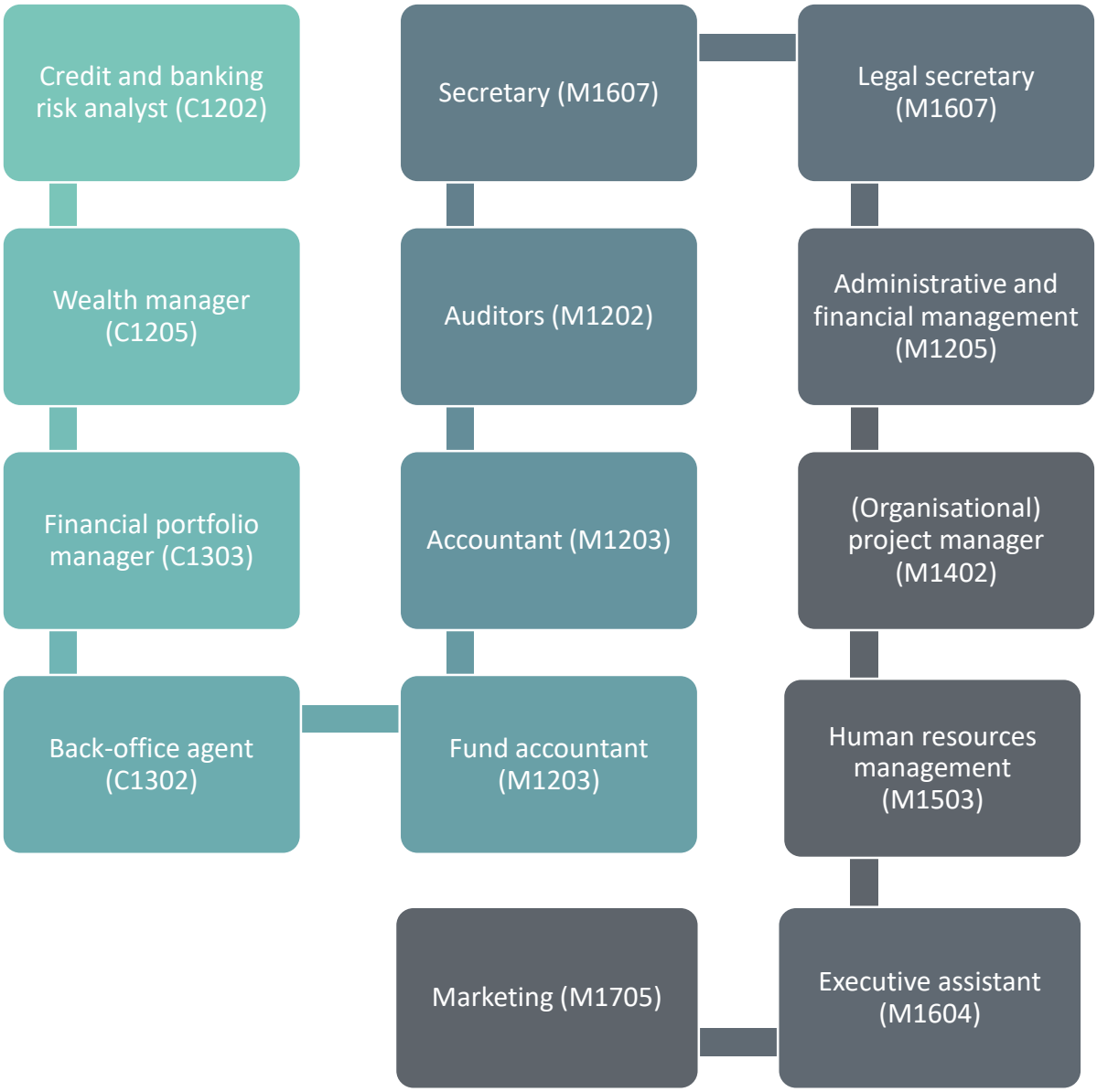
- Green finance experts/analysts. There are very few experts available in the market, which limits this emergence in volume. The increase is particularly noticeable in asset management companies. Interest is also increasing in banks, but in non-Luxembourgish ones, these experts are more likely to be recruited in other countries (e.g. the country of the headquarters).
- In contrast to the KYC/AML functions that have been recruited extensively over the last few years (see page 21) - which are purely operational roles following standardised processes and are likely to be automated in the near future - demand will instead increase for compliance analyst roles, with a solid knowledge of the regulatory landscape, ability to foresee future regulatory trends and derive pragmatic advice for the business.
- Hybrid functions between business expertise, awareness of digital/software trends and the ability to manage/transform processes, in line with the company's strategic objectives (similar to functional analysts).
- In private banking: experts in wealth structuring, with both diverse technical skills (financial, tax and legal) and commercial skills. More generally, the fusion of expertise and commercial roles seems to be a trend to professionalise the client relationships.
- In funds/investment companies: fund managers with expertise in new alternative products, or new trends (e.g. the emergence of credit/private debt products in the context of the pandemic).
- In some IT activities, there is a tendency of emergence, beyond purely operational functions, of roles closer to the core business. This would be professionals who are able to write business procedures or educate users (particularly in the areas of security and data processing), in order to create more collaboration and proximity between the business and IT (see page 13).

Source: exchange with the fr2s federation

Occupations with no particular trend

For other (significant) occupations in the sector, no particular trend has been identified over the 2015-2020 period, i.e. declared job positions were fairly stable or fluctuated too much to identify a clear trend.

This is the case for some banking professions (credit analysts, wealth managers, portfolio managers), back-office staff (in banks, asset management and security services companies), fund accountants and other accountants, auditors and legal secretaries, administrative and financial directors, project managers, human resources managers, executive assistants and marketing professionals.



Source: job vacancies declared to ADEM

Occupations with the greatest shortage of candidates (1/2)

After analysing the growth trends, we now focus on the shortage level for the various occupations recruited in the financial sector. To assess the degree of shortage, three indicators are taken into account for the 2018 - 2020 period:

1. the average number of matches (= definitive proposals of candidates by ADEM advisors) made per declared position;
2. the rate of declared job vacancies to which no suitable candidates (among the available jobseekers) could be proposed;
3. A direct comparison between registered jobseekers registered under this specific occupation (candidates) and the number of positions reported for the occupation (across all sectors).

Example	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/ position (18-20)
	0.7	26%	0.6

These three indicators provide a complementary perspective on the level of shortage. The candidates/position comparison shows how many jobseekers are theoretically looking for a job in this occupation compared to the number of declared positions (an indicator below 1 indicates a basic lack of hypothetical candidates for the occupation). On the other hand, the average of the matches and the rate of unmatched vacancies give an indication of the (mis-)match of qualifications/skills between positions and candidates.
Occupations that are not significant in the sector at all (i.e. very few declared positions) are excluded from the shortage analysis.

The occupations for which the degree of shortage appears to be strongest (based on the three indicators: very few matches on average, high rate of unmatched vacancies, candidates/position < 1) are listed on the following page. These include:

- core occupations of the sector: insurance agents, banking customer service managers (private and corporate), fund officers and accountants, KYC analysts, financial risk managers and banking lawyers;
- finance occupations that can also be found in other sectors: financial analysts, accountants, management controllers, internal auditors and legal secretaries;
- other support functions, particularly in projects and IT: project managers, IT administrators, IT architects, sIT engineers, IT developers, functional and business intelligence analysts, and IT security managers.

(Other occupations may also be experiencing talent shortages, but the list of occupations on the following page is limited to those that appear as the strongest).

What is not apparent from our data is the (very likely) shortage in executive roles who manage financial sector companies. The fr2s also notes that in the context of the war for talent and the need to actively seek out talent, often internationally, recruiters/head hunters are also in short supply.

Source: job vacancies declared to ADEM; expertise of ADEM employer advisors, the ABBL/ALFI/ACA and fr2S

Occupations with the greatest shortage of candidates (2/2)

		Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/ position (18-20)
Insurance:	Insurance agent (C1109)	1.2	44%	0.3
Banking:	Banking customer service manager (private) (C1206)	1.1	47%	0.4
	Banking customer service manager (corporate) (C1206)	1.4	32%	0.2
Funds:	Fund officer (C1301)	1.1	42%	0.2
	Fund accountant (M1203)	0.6	63%	0.2
Transversal occupations in finance:	KYC analyst (C1202)	1.7	33%	0.3
	Tax specialist (K1903)	0.5	63%	0.2
	Banking lawyer (K1903)	1.0	48%	0.1
	Financial analyst (M1201)	0.7	58%	0.4
	Financial risk manager (M1201)	0.9	48%	0.3
	Internal auditor (M1202)	0.9	46%	0.1
	Accountant (M1203)	1.4	41%	0.3
	Management controller (M1204)	1.1	44%	0.7
	Legal secretary (M1607)	1.0	48%	0.6
Projects/ IT:	(Organisational) project manager (M1402)	1.0	44%	0.5
	Information system administrator (M1801)	1.3	39%	0.4
	Information system architect (M1802)	0.3	66%	0.2
	IT software engineer (M1802)	0.5	61%	0.1
	IT security manager (M1802)	0.7	54%	0.2
	Business intelligence analyst (M1805)	0.5	62%	0.2
	IT functional analyst (M1805)	1.2	44%	0.4
	IT project manager (M1805)	1.5	37%	0.6
	Business intelligence developer (M1805)	0.3	79%	0.2
	IT developer (M1805)	0.4	63%	0.3
	Web developer (M1805)	0.7	61%	0.3

Source: job vacancies declared to ADEM

Occupations with a surplus of candidates

Attention: there might still be a skills shortage

In contrast, some occupations have a surplus of candidates, i.e. more jobseekers are registered for the occupation than there are declared positions.
This does not mean that employers do not experience shortages in these occupations. A surplus of candidates that theoretically fit the vacancy does not exclude a shortage in terms of skills, and employers may still have difficulty finding "the right candidate".
Occupations with a surplus of candidates (as well as a rather high average matches/position rate and a lower rate of unmatched vacancies) are listed below. These are administrative support roles (accounting clersks, human resources assistants, generic administrative assistants, secretaries and accounting secretaries) where the demand has already decreased due to automation trends which are expected to accelerate in the coming years.

	Average matches/position (18-20)	Rate of unmatched vacancies (18-20)	Candidates/ position (18-20)
Accounting clerk (M1203)	3.7	11%	3.1
Human resources assistant (M1501)	3.2	28%	1.7
Administrative assistant (M1607)	4.4	16%	2.0
Secretary (M1607)	3.2	14%	1.6
Accounting secretary (M1608)	4.5	23%	1.3

Source: job vacancies declared to ADEM

Conclusion of the occupation-level analysis (1/2)

On the basis of the preceding analysis, we are now able to draw some cautious conclusions on which occupations should be given priority in career guidance, initial and continuous training and talent attraction. This also provides a framework for identifying the target groups to whom training and guidance for upskilling and reskilling should be offered in priority. These conclusions are based on the trend (growth, decline, stability, emergence) and the level of shortage identified for the occupation. Since these are strictly based on the past however (2015-2020), it is useful to add a third, more future-oriented dimension: the risk of automation of the occupation.

This indicator is here based on a study conducted by researchers at Oxford University[1], which estimated (in 2017) the risk of automation for 702 different occupations (according to the SOC benchmark, used in Anglo-Saxon countries). The method of this study and the results are certainly debatable, but it is still the most comprehensive and granular analysis of the automation risks for such a variety of occupations. To use this study, we have therefore linked our ROME occupations to the closest SOC occupation. Given the limitations of this study, we have not used the precise figure for the risk of automation but rather a classification (high, low, moderate, etc.), which should only give an indication of the potential future evolution of the occupation.

Priority occupations

The following occupations, which - on the basis of our analysis - are experiencing a shortage and/or a growth trend, and are not too strongly under risk of automation in the near future, can be considered as priority occupations in career guidance, training (initial and continuous) and talent attraction.

Occupations/Functions	Positions 2018-2020	Trend	Shortage	Risk of automation[1]
Banking customer servcie manager (private) (C1206), taking into account the details on p.26	291	growth	shortage	rather low
Banking customer servcie manager (corporate) (C1206)	176	/	shortage	rather low
Fund officer (C1301), taking into account the details on p.26	1473	growth	shortage	rather low
KYC analyst (C1202), taking into account the clarification on p.26 (compliance analysis rather than execution of KYC transactions)	894	growth	shortage	n/a
Banking lawyer (K1903)	235	/	shortage	low
Financial analyst (M1201)	200	growth	shortage	rather low
Financial risk manager (M1201)	442	growth	shortage	rather low
(Organisational) project manager (M1402)	243	/	shortage	rather low
IT architect/engineer (M1802), incl. Cloud (see p.26)	187	growth	shortage	low
IT security manager (M1802)	68	growth	shortage	rather low
IT functional analyst (M1805), taking into account the details on p.26	149	transition	shortage	rather low
IT project manager (M1805)	107	growth	shortage	low
Business intelligence & Big Data analyst/developer (M1805)	69	emergence	shortage	rather low
Software & web developer (M1805), especially full-stack (see p.26)	132	transition	shortage	low
Green finance experts/analysts	?	emergence	?	low

(Other occupations are in short supply, but are more exposed to the risk of automation (insurance managers, accountants, management controllers, auditors, tax specialists, etc.) and are therefore not included in the list).

[1] Frey, C.B., Osborne, M. (2017): The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change, Volume 114.

Conclusion of the occupation-level analysis (2/2)

Priority target groups (for upskilling and reskilling)

The following occupations are, based on the data, experiencing a surplus of candidates, a risk of automation and/or a downward trend. Candidates working in these occupations or originating from them (in the case of jobseekers) can be targeted as priority groups in training and guidance for upskilling or reskilling trajectories. The last column of the table provides some examples of potential upskilling/reskilling trajectories. These remain purely indicative and should be evaluated and developed further with the social partners.

Occupations/Functions	Trend	Shortage	Risk of automation [1]	Upskilling/reskilling trajectories
Insurance customer advisor (C1102)	decline	/	high	Insurance agent (C1109), Actuary (C1105), Banking customer service manager (C1206)
Bank receptionist, teller (C1201)	decline	/	high	Banking customer service manager (C1206)
Back-office administrative clerk (C1401)	decline	/	high	KYC analyst (C1202), Fund officer (C1301)
Insurance administrative clerk (C1401)	decline	/	high	Insurance agent (C1109)
Banking administrative clerk (C1401)	decline	/	high	Credit and bank risk analyst, KYC analyst (C1202)
Accounting clerk (M1203)	/	surplus	high	Accountant (M1203), Management controller (M1204), Fund accountant (M1203)
Human resources assistant (M1501)	/	surplus	high	Office manager (M1604), Human resources development (M1502)
Administrative clerk (M1602)	decline	/	high	Office manager (M1604), Legal secretary (M1607)
Secretary (M1607)	/	surplus	high	Office manager (M1604), Legal secretary (M1607)
Accounting secretary (M1608)	/	surplus	high	Accountant (M1203)

[1] Frey, C.B., Osborne, M. (2017): The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change, Volume 114.

4. Skills-level analysis

Skills-level analysis: method

The job vacancies declared to ADEM contain a wealth of information regarding skills required by Luxembourg-based companies. This information exists mainly in an unstructured format (as job descriptions). The only structured data that exists in a comprehensive and reliable way are the languages and level of experience required.

In order to make use of this unstructured data, ADEM decided to collaborate with an external provider (based in Europe) who has developed a text mining (automated text analysis) approach to extract structured data on the skills mentioned in the job vacancy descriptions. This model is widely used by the European Commission in its Skills-OVATE project and has proven to be sufficiently reliable for this type of analysis.

However, it should be noted that text mining techniques are still in a development phase and may generate errors or miss certain information. A distinct advantage is the ability to analyse large volumes of text in a very short amount of time and at a low cost.

The model also works in different European languages (English, French, German...).

In May 2021, ADEM shared the descriptions of 142,000 job offers (years 2015 - 2021[1]) with the provider and obtained the results in June 2021. 1.28 million mentions of specific skills were identified in these job offers.

For a majority of the identified skills, the service provider has made the link with the ESCO skills reference framework. This makes it possible to analyse the skills according to a hierarchy of granularity and different categories (Attitudes & Values, Skills, Knowledge). The ESCO hierarchy also has some limitations (e.g. overlaps between attitudes & values and skills & knowledge, hierarchy choices that are sometimes difficult to understand...) but has the advantage of being a granular and internationally recognised reference framework.

Language skills are excluded from the text mining analysis because ADEM possesses structured (more reliable) data on languages that was analysed separately.

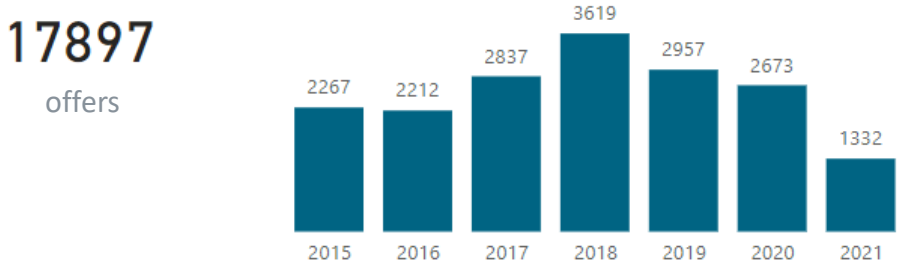
The results give an indication of the skills in demand by Luxembourg-based companies, by sector (NACE) and by occupation (ROME), as well as the evolution of this demand over time. It should be noted, however, that a job vacancy advertisement does not necessarily provide a complete picture of the skills that are actually required to perform a job: it is often written in a particular way to appear more attractive and therefore rarely includes the less "marketable" skills (e.g. stress management) nor the more technical skills of the job which might appear obvious.

While this data will be used for more in-depth analysis, ADEM takes advantage of these sectoral studies to give a first overview of the skills advertised by the sector and for some key occupations in this particular sector (as well as trends in the evolution).

[1] The year 2021 includes data until the end of April

Skills-level analysis: Financial sector

Among the 18,974 job vacancies declared to ADEM (2015 - April 2021) by employers in the financial sector and including at least a minor job vacancy description, 17,897 (i.e. the vast majority) included explicitly mentioned skills (identifiable by text mining). The following graph shows the distribution of these offers over the years.



Among these 17'897 job vacancies that showed results, we can specify to what degree a specific skill or a category of skills has been identified (at least once).
The graph below shows these rates for the different categories of the ESCO classification (at their highest hierarchy level: ESCO 0):

- **Attitudes and values**: in 90% of the job vacancies, at least one mention of an *attitude* or *value* was identified
- **Knowledge**: the overall rate of vacancies in which at least one mention of a specific *knowledge* has been identified is around 94%.
- **Skills**: the overall rate of vacancies in which at least one mention of a specific *skill* has been identified is around 97%.
- There remain 7% of vacancies in which a skill has been identified that was not linked to the ESCO framework (this data is excluded from the analysis hereafter).

For all three categories, the requirements have slightly increased since 2015.

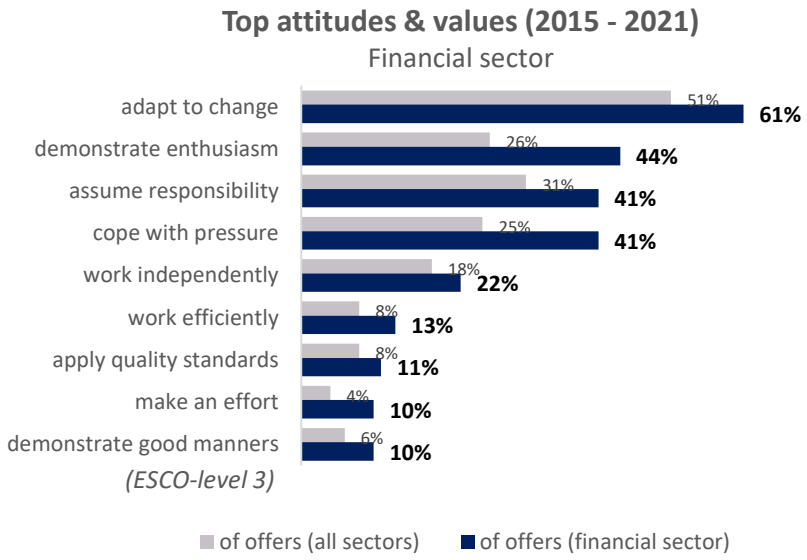
ESCO 0	2015	2016	2017	2018	2019	2020	2021	**Total**
⊞	7%	8%	8%	7%	7%	8%	8%	**7%**
⊞ attitudes and values	88%	86%	92%	90%	92%	92%	92%	**90%**
⊞ knowledge	92%	92%	94%	94%	94%	95%	95%	**94%**
⊞ skills	96%	96%	97%	98%	98%	98%	98%	**97%**

The remainder of this chapter presents the most in-demand skills (distinguishing between "attitudes & values" and "skills & knowledge") mentioned in the job vacancies of the financial sector and for some key occupations within the sector (as well as the trends in their evolution).

Source: text mining applied to job vacancies declared to ADEM

Most in-demand attitudes & values in the financial sector

The graph below presents the attitudes and values that are the most in demand in job vacancies declared by employers in the financial sector over the 2015 - 2021 (until April) period. These skills are captured at the ESCO level 3 and the definitions can be found on the classification's website.
The graph shows, in blue, the percentage of job offers in the financial sector in which the skill was mentioned and, in grey, the percentage of all job offers (across all sectors) in which the skill was mentioned.
The most in-demand value/attitude was adapting to change (which is the case in the majority of sectors), with 61% of job vacancies mentioning it. We also note that job vacancies in the financial sector generally require more attitudes/values than other sectors on average.



As for the evolution, we observe a general growth trend in the demand for the different attitudes and values.

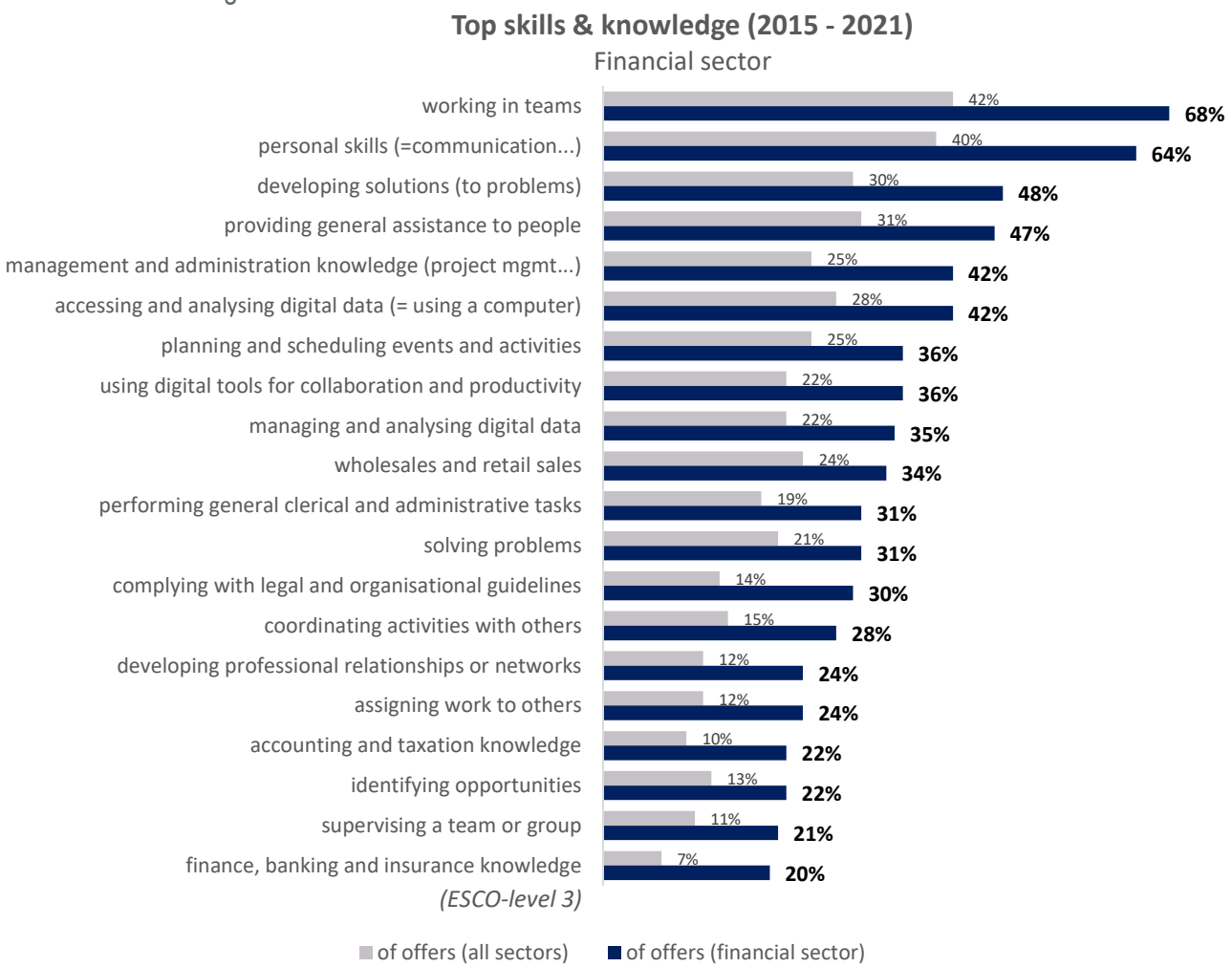
Evolution of top attitudes & values

	2015	2016	2017	2018	2019	2020	2021
adapt to change	58%	57%	60%	59%	63%	65%	62%
demonstrate enthusiasm	40%	37%	45%	47%	49%	49%	53%
assume responsibility	34%	32%	44%	46%	45%	42%	45%
cope with pressure	38%	34%	40%	44%	46%	46%	46%
work independently	21%	21%	22%	23%	25%	23%	24%
work efficiently	11%	12%	12%	13%	14%	15%	14%
apply quality standards	9%	11%	12%	11%	13%	13%	12%
make an effort	8%	8%	12%	11%	12%	9%	12%
demonstrate good manners	10%	9%	11%	11%	10%	12%	13%
assure quality of processes and products	3%	3%	4%	3%	3%	4%	3%

Source: text mining applied to job vacancies declared to ADEM

Most in-demand skills & knowledge in the financial sector (1/2)

Skills & knowledge are also captured at ESCO level 3. This has the advantage of grouping together similar skills but the disadvantage that the meanings of some categories are not always very obvious (which is why we sometimes give specifications in brackets). In the financial sector, the skills of working in a team, communication, problem-solving and providing assistance are mentioned most frequently. In general, the skills & knowledge requirements in the financial sector are higher than for the sector average.



Regarding the evolution of these skills (following page), we note that they have generally increased in importance over the 2015 - 2021 period. Among the most strongly growing skills over the last few years are teamwork, management knowledge (project management, etc.), planning activity (time management, etc.), data analysis, developing professional relationships and technical (finance/banking/insurance) knowledge.

Source: text mining applied to job vacancies declared to ADEM

Most in-demand skills & knowledge in the financial sector (2/2)

Evolution of top skills & knowledge

	2015	2016	2017	2018	2019	2020	2021
working in teams	63%	60%	67%	70%	71%	73%	75%
personal skills (=communication...)	63%	58%	65%	66%	64%	63%	68%
developing solutions (to problems)	45%	43%	50%	50%	49%	49%	53%
providing general assistance to people	43%	42%	47%	50%	49%	49%	50%
management and administration knowledge (project mgmt...)	37%	36%	42%	43%	44%	45%	45%
accessing and analysing digital data (= using a computer)	36%	40%	45%	43%	41%	42%	45%
planning and scheduling events and activities	32%	29%	36%	37%	38%	38%	40%
using digital tools for collaboration and productivity	31%	33%	38%	38%	36%	35%	38%
managing and analysing digital data	30%	33%	36%	36%	35%	36%	40%
sales activities & quality standards of services and products	25%	26%	24%	23%	27%	27%	27%
performing general clerical and administrative tasks	27%	26%	33%	34%	34%	31%	32%
solving problems	28%	26%	33%	32%	31%	32%	35%
complying with legal and organisational guidelines	27%	26%	32%	33%	32%	29%	31%
coordinating activities with others	25%	22%	29%	32%	30%	29%	31%
developing professional relationships or networks	23%	20%	23%	26%	25%	25%	28%
assigning work to others	25%	19%	24%	26%	24%	25%	25%
accounting and taxation knowledge	20%	20%	23%	23%	22%	22%	24%
identifying opportunities	19%	17%	24%	25%	23%	22%	25%
supervising a team or group	16%	13%	21%	25%	23%	24%	24%
finance, banking and insurance knowledge	18%	18%	20%	21%	21%	22%	24%

In addition to the above-mentioned top skills, others can be identified as emerging skills (having a growth trend, but still not very significant in volume).

	2015	2016	2017	2018	2019	2020	2021
Business skills							
actuarial science	3%	3%	6%	6%	6%	6%	7%
economics	9%	8%	9%	9%	11%	11%	12%
Personal skills							
develop creative ideas	7%	9%	8%	8%	8%	9%	11%
think creatively	4%	5%	7%	7%	7%	10%	9%
ethics	1%	1%	2%	2%	3%	3%	4%
Digital/project skills							
agile	0%	0%	1%	1%	1%	2%	2%
DevOps		0%	1%	1%	1%	2%	1%
SQL	2%	3%	3%	3%	4%	4%	4%

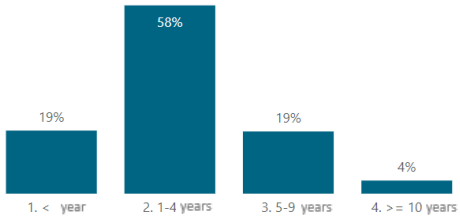
Source: text mining applied to job vacancies declared to ADEM

Languages and experience required in the financial sector

Alongside the unstructured data extracted by text mining, the job vacancies also include structured data on the languages and years of experience required for the position. This data is analysed hereafter based on the 17,897 vacancies taken into account (2015 - April 2021).

Experience requirements (2015-2021)

Duration of required experience (2015-2021)



In the financial sector, 81% of job vacancies have explicitly required experience. More than the majority of them (58%) ask for 1 to 4 years of experience, 19% for 5 to 9 years and 19% < 1 year. Only 4% of vacancies require an experience ≥ 10 years. These expectations have increased considerably over the 2015-2021 period: Looking only at the offers from the past two years, 89% required experience, of which 63% required experience of 1 to 4 years and only 12% required experience of < 1 year.

Language proficiency is structured according to the CEFR (Common European Framework of Reference for languages) levels, which captures the requirements for the three official languages (Luxembourgish, French and German) as well as English.

English is the most in-demand language in the financial sector and appears in 94% of the job vacancies (65% even require a level C for "proficient user"). For 2% of them, English is considered only an asset and in 3% of the vacancies it does not appear at all.

French is required in 49% of the offers and in 18% of them it is considered an asset.

German is compulsory in 16% of the offers and Luxembourgish in only 5%.

The overall language requirements have remained fairly stable over the 2015 - 2021 period. However the expectations of the level that is required have increased significantly (increasingly C rather than B), for all languages.

Language requirements (2015-2021)

Luxembourgish		A	B	C	Total
0. None	89%				**89%**
1. Asset		2%	1%	3%	**6%**
2. Compulsory		0%	2%	3%	**5%**
Total	**89%**	**2%**	**3%**	**6%**	**100%**

French		A	B	C	Total
0. None	34%				**34%**
1. Asset		5%	4%	9%	**18%**
2. Compulsory		1%	14%	34%	**49%**
Total	**34%**	**6%**	**18%**	**43%**	**100%**

English		A	B	C	Total
0. None	3%				**3%**
1. Asset		1%	1%	1%	**2%**
2. Compulsory		1%	28%	65%	**94%**
Total	**3%**	**1%**	**29%**	**67%**	**100%**

German		A	B	C	Total
0. None	63%				**63%**
1. Asset		5%	4%	11%	**21%**
2. Compulsory		1%	5%	11%	**16%**
Total	**63%**	**6%**	**9%**	**22%**	**100%**

Source: job vacancies declared to ADEM

Skills profiles of several key occupations (1/6)

Banking customer service manager (private and corporate) (C1206)

Banking customer service managers (of private or corporate customers) have been identified as one of the priority occupations in the sector due to their shortage (see page 31).

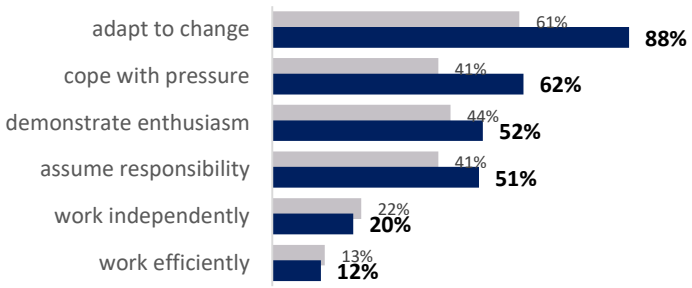
Top skills

The following graphs show the skills (attitudes and values, skills and knowledge) most in-demand for banking customer service managers, compared to the financial sector average.

The attitudes/values of adapting to change, coping with pressure, enthusiasm and assuming responsibility were found to be the most in-demand.

In terms of skills and knowledge, the following are among those significantly more in-demand than in the sector average: customer assistance, developing/maintaining professional relationships and selling products.

Top attitudes & values (2015-2021)
Banking customer service manager (C1206)



Top skills & knowledge (2015-2021)
Banking customer service manager (C1206)

Growing skills

For the skills below, a growth trend has been identified.

		2015	2016	2017	2018	2019	2020	2021
Job-specific skills								
	sell products	12%	12%	11%	15%	23%	22%	20%
	business processes	1%	2%	4%	4%	3%	2%	7%
Personal skills								
	develop creative ideas	7%	5%	4%	11%	16%	12%	23%
	work efficiently	5%	3%	7%	11%	13%	19%	15%
	create solutions to problems	36%	31%	27%	39%	49%	54%	48%
	think proactively	33%	31%	64%	51%	48%	55%	49%
Digital skills								
	blockchain				1%	1%	1%	2%

Source: text mining applied to job vacancies declared to ADEM

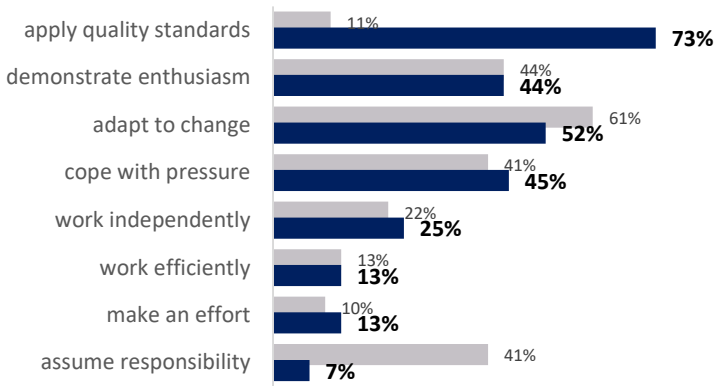
Skills profiles of several key occupations (2/6)

KYC analyst (C1202)

KYC analysts have been growing (strongly) and have been in shortage over the 2015 - 2020 period (see page 31). They are therefore considered for a deeper analysis.

Top attitudes & values (2015-2021)

KYC analyst (C1202)

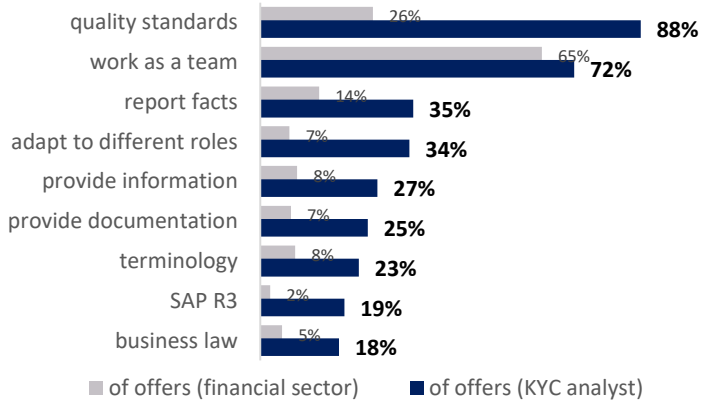


Top skills

Not surprisingly, the application of quality standards is much more strongly in demand than for other occupations in the sector, while assuming responsibility seems to be less frequently required.

Top skills & knowledge (2015-2021)

KYC analyst (C1202)



Skills and knowledge that stick out include knowledge of quality standards, fact reporting and adapting to different roles, but also for example the knowledge of SAP software.

Growing skills

For the skills below, a growth trend has been identified.

	2015	2016	2017	2018	2019	2020	2021
Job-specific skills							
actuarial science	8%	10%	7%	7%	11%	11%	15%
foreign valuta	12%	14%	16%	17%	17%	22%	30%
perform business analysis			1%	3%	4%	4%	3%
Personal/interpersonal skills							
think proactively	33%	38%	36%	36%	46%	40%	48%
think creatively			1%	1%	2%	3%	6%
manage time	6%	2%	7%	9%	9%	12%	10%
work efficiently	9%	13%	12%	15%	14%	14%	17%
working in teams	72%	67%	66%	72%	75%	82%	84%
Assertiveness	7%	13%	13%	12%	19%	14%	24%
Digital skills							
use spreadsheets	3%	2%	5%	6%	4%	7%	12%
data protection	1%	2%	4%	3%	5%	2%	4%

Source: text mining applied to job vacancies declared to ADEM

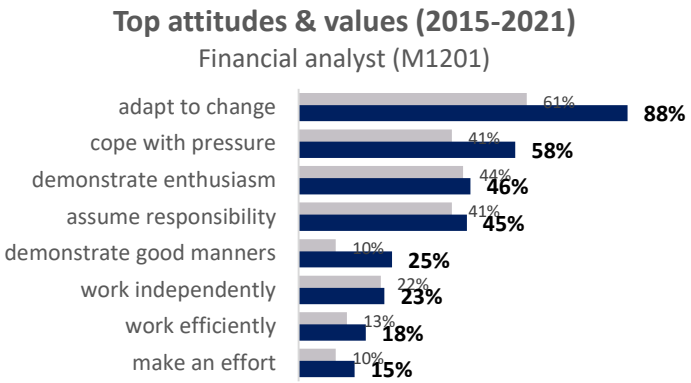
Skills profiles of several key occupations (3/6)

Financial analyst (M1201)

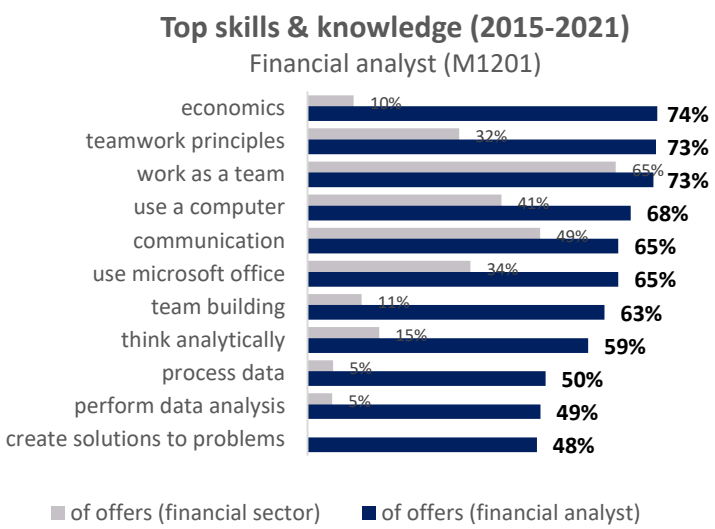
Another occupation to be prioritised is the financial analyst (see page 31).

Top skills

For financial analysts, adapting to change, coping with pressure and professionalism (*demonstrating good manners*) stand out particularly among the attitudes and values.



In terms of skills and knowledge, we observe a strong demand for skills in general. These include business skills (economics, analytical thinking), digital skills (computer/software use, data management and analysis) and personal skills (teamwork, communication, problem-solving...).



Growing skills

For the following skills, a growth trend has been identified.

		2015	2016	2017	2018	2019	2020	2021
Job-specific skills								
	financial forecasting	13%	4%	14%	5%	14%	14%	23%
	follow company standards	16%	24%	30%	34%	38%	32%	45%
Management skills								
	planning and scheduling events and activities	32%	28%	30%	41%	36%	42%	45%
	coordinate communication within a team	10%	24%	16%	22%	21%	19%	35%
	project management		4%	6%	10%	7%	10%	16%
	provide leadership	16%	8%	13%	12%	21%	10%	23%
Personal skills								
	think proactively	29%	20%	38%	37%	45%	40%	42%
	show responsibility	32%	44%	38%	42%	43%	51%	48%
Digital skills								
	SQL	3%	8%	3%	3%	16%	6%	13%
	use spreadsheets	35%	44%	36%	37%	34%	57%	52%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (4/6)

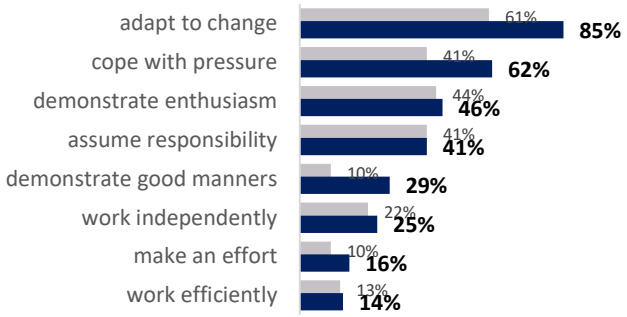
Financial risk manager (M1201)

Financial risk managers (see page 31) are also to be prioritised.

Top skills

For risk managers, the attitudes and values required are very similar to those of financial analysts (previous page). This is not surprising since both belong to the same occupation (M1201).

Top attitudes & values (2015-2021)
Financial risk manager (M1201)



In terms of skills and knowledge, the expectations are also very high (as for financial analysts), but with variations in content. The top skills include risk management, use of computers/software, knowledge of economics and following of company standards/procedures.

Top skills & knowledge (2015-2021)
Financial risk manager (M1201)

Growing skills

For risk managers, the demand for the vast majority of skills has been growing. The list below shows the most significant examples.

		2015	2016	2017	2018	2019	2020	2021
Job-specific skills								
	economics	61%	60%	65%	71%	75%	74%	77%
	mathematics	14%	20%	20%	17%	32%	21%	32%
Personal skills								
	adapt to change	79%	71%	89%	82%	91%	88%	96%
	cope with pressure	53%	60%	57%	60%	69%	65%	71%
	create solutions to problems	31%	34%	52%	45%	53%	45%	62%
	identify with the company's goals	7%	10%	16%	10%	11%	17%	30%
	think creatively	12%	11%	18%	15%	29%	20%	29%
	work efficiently	7%	10%	16%	11%	11%	17%	32%
	act reliably	2%	2%	2%	4%	5%	8%	13%
Digital skills								
	SQL	11%	8%	8%	10%	18%	14%	17%
	analytics	32%	31%	43%	45%	44%	37%	52%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (5/6)

Organisational project manager (M1402) / IT project manager (M1805)

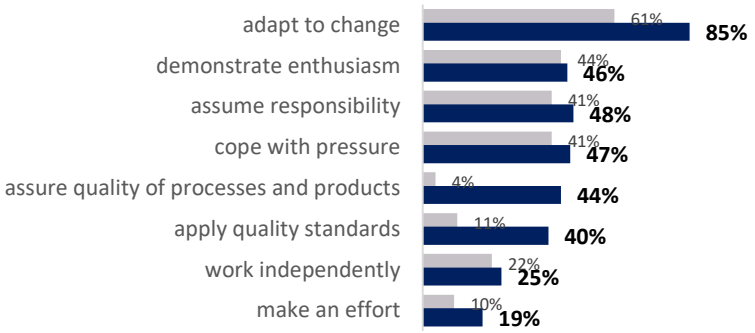
Project managers, both in organization and IT, are another category of occupations to be prioritised (see page 31).

Top skills

For project managers, the expectations for the various attitudes and values are rather high. Adaptating to change is in 1st place. Quality assurance also stands out (compared to the sector average).

Top attitudes & values (2015-2021)

Project manager – Org.(M1402)/IT(M1805)



In terms of skills and knowledge, the requirements are very diverse and include personal skills (teamwork, communication, problem-solving, creativity, etc.) and management skills (time management, team management, etc.).

Top skills & knowledge (2015-2021)

Project manager – Org.(M1402)/IT(M1805)

Growing skills

For the skills below, a growth trend has been identified.

		2015	2016	2017	2018	2019	2020	2021
Personal skills								
	think creatively	32%	33%	31%	40%	36%	52%	39%
	develop creative ideas	22%	28%	28%	34%	30%	46%	42%
	think proactively	27%	39%	34%	40%	46%	42%	52%
Interpersonal skills								
	work as a team	69%	63%	64%	76%	78%	84%	83%
Digital skills								
	use office systems	1%	2%	4%	4%	4%	6%	5%
	DevOps			1%	1%	2%	1%	2%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (6/6)

IT developer – software, web, BI… (M1805)

Finally, let's take a look at the skills required for IT developers in the financial sector.

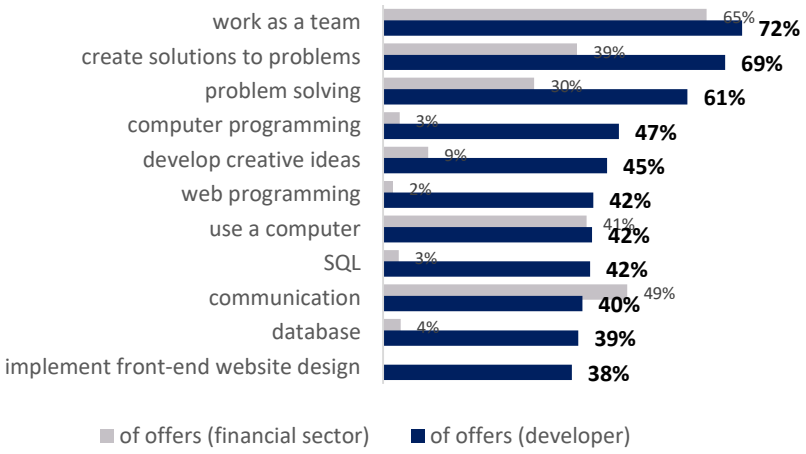
Top skills

Adapting to change seems to be even more important than for the other sectors, while most of the other attitudes and values are less explicitly in demand (except for quality assurance and efficiency).

Top attitudes & values (2015-2021)
IT developer (M1805)

In terms of skills and knowledge, we observe personal skills (teamwork, problem-solving, creativity) alongside job-specific skills (programming, SQL, databases, web design).

Top skills & knowledge (2015-2021)
IT developer (M1805)



Growing skills

For developers, the demand for the vast majority of skills has been growing, as illustrated by the list below (continuing on the next page).

		2015	2016	2017	2018	2019	2020	2021
Personal skills								
	think proactively	12%	16%	23%	27%	27%	40%	38%
	work independently	12%	9%	29%	19%	27%	32%	43%
	teamwork principles	10%	17%	30%	41%	37%	48%	43%
	think creatively	14%	19%	22%	40%	37%	43%	48%
	identify with the company's goals	2%	2%	1%	8%	8%	25%	19%
	develop strategy to solve problems	26%	24%	30%	40%	42%	57%	52%
Quality skills								
	follow company standards	14%	11%	16%	22%	16%	40%	33%
	apply quality standards	14%	11%	16%	24%	16%	42%	29%

Source: text mining applied to job vacancies declared to ADEM

Skills profiles of several key occupations (6/6)

Project skills

	2015	2016	2017	2018	2019	2020	2021
project management	16%	18%	23%	26%	38%	51%	38%
agile	14%	4%	19%	14%	25%	35%	43%
Lean project management			4%	2%	4%	20%	14%
manage project metrics	7%		6%	5%	8%	25%	24%
DevOps		3%	6%	13%	8%	29%	33%
manage time	14%	13%	29%	25%	33%	32%	43%

Data skills

business intelligence	2%	3%	3%	16%	11%	34%	14%
analytics		1%	4%	13%	14%	15%	5%
manage database	28%	26%	26%	44%	36%	55%	57%
manage ICT data architecture	9%	4%	4%	4%	7%	26%	33%

Web skills

design user interface	5%	7%	7%	9%	8%	9%	14%
graphics editor software	7%	2%	10%	16%	10%	5%	19%
CSS	16%	19%	28%	47%	30%	25%	52%
web programming	24%	28%	38%	59%	41%	54%	71%
PHP	10%	27%	28%	32%	25%	43%	48%

Other job-specific skills

analyse software specifications	10%	6%	9%	25%	18%	40%	29%
hardware components		4%	4%	2%	8%	6%	10%
cloud technologies		1%	1%	4%	3%	9%	10%
integrated development environment software	10%	7%	10%	19%	22%	25%	24%
tools for software configuration	5%	4%	9%	12%	5%	11%	19%
Oracle	9%	17%	12%	13%	11%	26%	29%
ubuntu	7%	7%	7%	4%	8%	25%	38%
linux	12%	12%	4%	5%	11%	25%	33%
angularjs	7%	4%	9%	24%	23%	31%	33%
xml	5%	10%	9%	21%	14%	15%	24%
intellij		1%	1%	1%	1%	9%	14%
ssl					1%	5%	10%
neo4j						11%	19%
cassandra		1%				12%	19%

Source: text mining applied to job vacancies declared to ADEM

Conclusion of the skills-level analysis

The text mining approach has enabled us to transform unstructured text into structured data that can be made to use. Although a job advertisement generally does not provide a complete image of the skills actually required to do a job, it contains insightful information on what skills the employers in Luxembourg decide to put on the forefront. Given that a job advertisement is often a projection of the company into the near future, it also provides insights into future requirements.

Based on the analysis in this chapter, we can observe that skills expectations are increasing in the financial sector.

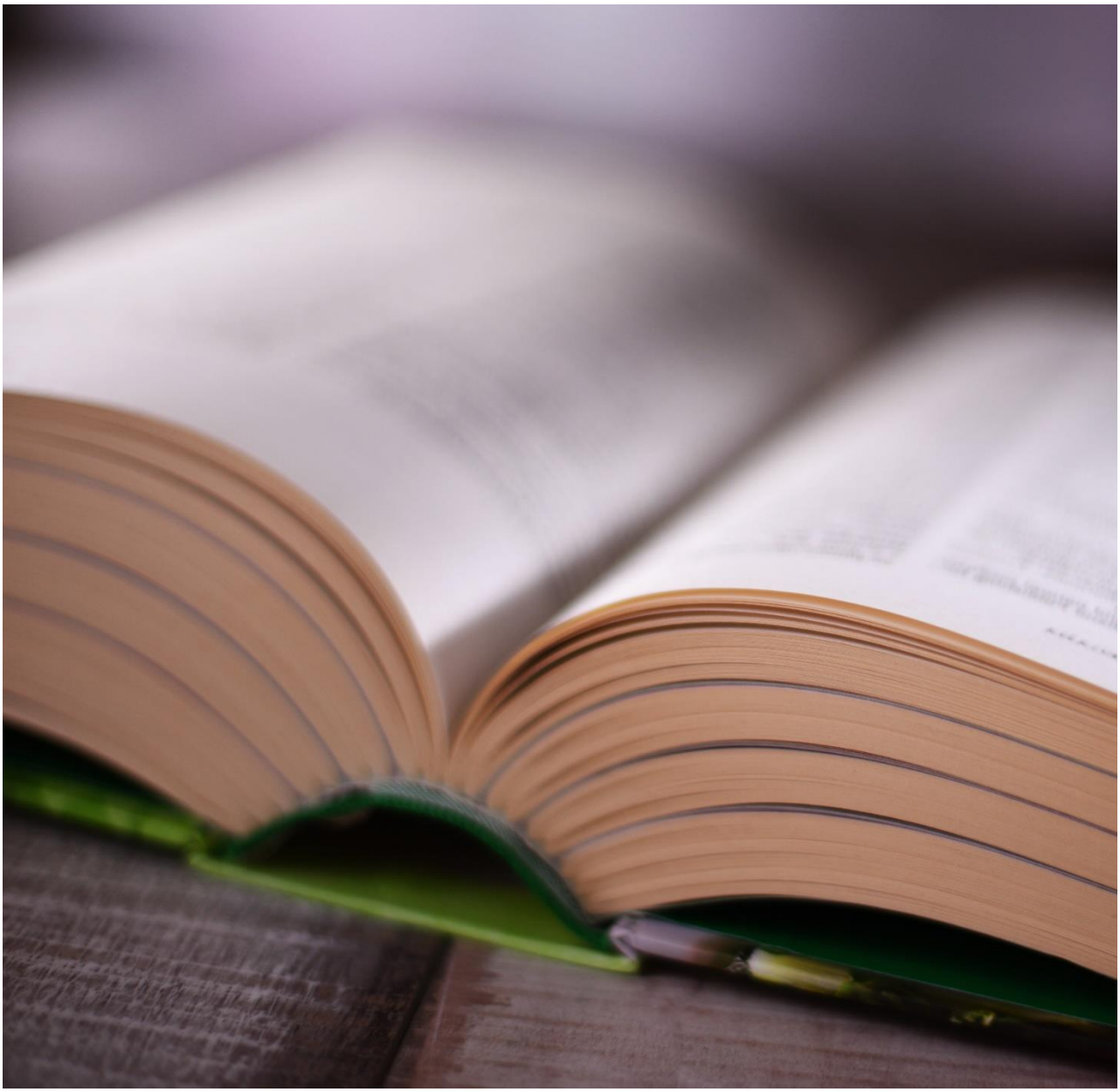
Personal/interpersonal and digital skills stand out as particularly in-demand, and to a lesser extent also skills specific to the occupation or to the financial sector. It is important to note that in our analysis, job-specific skills are probably underestimated compared to transversal skills, both because the text mining model finds it easier to identify transversal skills that appear more often in general and because job advertisements tend to mention transversal skills more often whereas job-specific skills might be considered an obvious requirement for a specific job.

These results of our skill-level analysis can be used to enrich the current training offer in Luxembourg, for example by integrating more transversal skills into the various existing trainings.

However, for the reasons mentioned above, these results need to be complemented by other analytical methods and with qualitative input from experts on the different occupations.

The results will also enable employers in the sector to reflect on the role of these skills in their company, and jobseekers to position themselves during the job application process (CV, cover letter, job interview) in relation to these skills.

5. Glossary of ROME occupations



Glossary of ROME occupations

This glossary aims to facilitate the understanding of all ROME labels used in the document. It includes, per ROME occupation, examples of functions ("*appellation*" in the ROME terminology) as well as a definition. The ADEM website enables the user to search for all ROME occupations and to find further details, such as typical activities and required skills. The ROME code in the table refers directly to the ROME page for that occupation.

Code	Occupation	Functions	Definition
C1102	Insurance customer advice	• Insurance customer advisor • Insurance sales agent (B2C & B2B)	Informs and advises individuals, companies, etc. on property and personal insurance (fire, accident, pension, provident fund, etc.). Sells products and services in accordance with the establishment's commercial policy and insurance regulations. May carry out the technical (pricing project, etc.) and administrative aspects of contracts. May promote banking products and services.
C1105	Actuarial studies in insurance	• Actuary • Actuarial research officer	Evaluates the profitability of insurance products (healthcare, house, car, etc.) and financial products (life insurance, savings, etc.) in the short, medium and long term, depending on changes in the environment (life expectancy, mortality, market prices, etc.) and in accordance with insurance regulations and the company's commercial strategy. May coordinate or perform asset management control of a structure. May coordinate a team.
C1108	Group and service management in insurance	• Insurance department manager (operational department, mainly in B2B)	Supervises and coordinates the activities of a specialised service/group/department (production, claims, etc.) according to quality procedures and insurance regulations. May establish partnership contracts. May lead in-house training activities.

Code	Occupation	Functions	Definition
C1109	Insurance operations	• Insurance agents / Claims handlers / Underwriters	Drafts and manages (underwriting, coding, etc.) insurance contracts (motor, industrial, housing risks, etc.) by reference to pre-established contracts or by adapting standard clauses in accordance with insurance regulations. May make calls for contributions and check their collection. May manage disputes and litigation.
C1201	Reception and banking services	• Banking customer service assistant (titles: account officer, customer services officer, client relationship assistant manager, front office support) (Employers: banks, B2B insurance companies) • Bank receptionist • Bank teller	Welcomes and guides customers in person and by telephone; informs customers about basic banking and insurance services/products. Carries out routine counter operations in accordance with the rules and instructions for the safety of people and property. May monitor the cash requirements of the organisation.
C1202	Credit analysis and bank risks	• Credit analyst and bank risk analyst (titles: credit manager, credit operator) (Employers: banks) • KYC analyst (titles: KYC analyst/officer, AML analyst/officer/specialist, compliance officer/analyst/manager, KYC-AML manager) (Employers: asset managers, banks, payment services, trustees)	Studies and gives opinions or decisions on applications for loans to individuals or companies (property, consumer, etc.) and assesses the risks involved in granting them in accordance with the institution's overall commercial and financial strategy and banking regulations. May draw up contractual documents and monitor insurance contracts relating to loans. May coordinate a team.
C1205	Advice on financial asset management	• Wealth manager (Employers: banks)	Advises and guides private individuals in their choice of investments to build up or optimise their financial assets in accordance with banking and financial regulations. May implement management mandates. May manage an organisation.

Code	Occupation	Functions	Definition
C1206	Banking customer management	• Banking customer services manager (titles: account manager, relationship manager, business developer in private banking, wealth manager) • (Corporate) banking customer services manager (titles: account manager, business developer in corporate banking, client service manager)	Advises, promotes and sells the institution's financial products and services to private individuals, professionals and companies, in accordance with banking regulations. May carry out market analyses of companies. May grant or refuse loan applications. May also offer insurance products.
C1301	Front office financial markets	• Fund officer (titles: transfer agent, fund manager, transaction officer, fund analyst, client service delivery, depositary officer, fund administration, etc.) (Employers: trust asset managers, banks) • Dealer/Trader	Issues orders to invest, buy and sell stock market products (rates, securities, etc.) on financial markets, under the supervision of the supervisory authority and in accordance with financial legislation. May manage a portfolio of financial assets. May carry out compliance checks on operations/transactions. May coordinate a team.
C1302	Back and middle office management of financial markets	• Back-office agent (Employers: banks, securities services, asset managers) • Middle-office agent (tasks: administrative management of accounts, reconciliation, reporting, compliance) (Employers: banks, asset managers)	Organises the monitoring, control and recording of transactions carried out in the financial markets (foreign exchange, securities, etc.) in accordance with the quality procedures of the institution to which it belongs and with banking and financial regulations. May define procedures for processing market operations. May carry out quality monitoring of administrative procedures. May coordinate a team.
C1303	Portfolio management in financial markets	• Financial portfolio manager	Optimises the return on portfolios of financial assets on behalf of third parties (companies, individuals, institutions) or for the parent company, under the supervision of the supervisory authority and in accordance with legislation.

Code	Occupation	Functions	Definition
C1401	Banking and insurance administration	• Back-office administrative clerk • Insurance administrative clerk • Banking administrative clerk	Carries out the administrative follow-up of files, the entry or verification of banking operations (stock exchange orders, cheque remittances, etc.) or insurance operations (entry of contracts, updating of contributions, etc.), in accordance with insurance or banking regulations. May manage insurance contracts (call for contributions, etc.). May carry out commercial operations (telephone canvassing, etc.).
K1902	Legal services	• Legal assistant	Provides administrative support (mail, information research, constitution of a document collection, etc.) for a legal professional (notary, bailiff, etc.) or a company. Draws up deeds or documents with legal value. Can authenticate judicial acts (interrogation, reconstitution, etc.). May draw up reports (inventory of fixtures, adultery, various types of damage, etc.). May participate in the organisation and running of a public auction. May coordinate a team.
K1903	Legal advice	• Lawyer • Tax specialist • Banking lawyer • Head of legal department	Advises and informs natural or legal persons in legal and judicial matters, draws up legal documents and manages litigation. May orally present the defence of clients during pleadings, may ensure the legal security of companies. May train people in his/her speciality and keep them up to date by monitoring information.

Code	Occupation	Functions	Definition
M1201	Financial analysis and engineering	• Financial analyst (titles: financial analyst, market analyst, quantitative analyst, business analyst) (Employers: banks, asset managers, insurance, payment services, securities services, stock exchange) • Financial risk manager/analyst (incl. credit risk, business risk, market risk, investment risk, operational risk) (Employers: banks, asset management (to a lesser extent), payment services, securities services, fintechs)	Carries out financial analyses and studies (of markets, risks, products, economic restructuring, etc.) for market operators or the company's management bodies in accordance with commercial, accounting and financial regulations. May implement merger/acquisition operations. May design risk monitoring and analysis tools. May coordinate a team.
M1202	Audit	• Internal auditor • Auditor • « Expert-comptable »	Carries out an audit or control of the accounting and financial operations of the organisation in accordance with legal obligations. Contributes to the prevention and control of the financial risks of the organisation and to the search for possible irregularities. May provide technical support in accounting and financial management to struggling companies. May coordinate the activities of a team or manage a department.
M1203	Accounting	• Accountant • Fund accountant • Accounting clerk	Records and centralises the commercial, industrial or financial data of an organisation in order to draw up balances of accounts, profit and loss accounts, balance sheets, etc. in accordance with legal requirements. Checks the accuracy of accounting entries and reports on the economic situation of the organisation. May carry out activities relating to payroll and personnel management. May coordinate the activity of a team or manage an organisation.

Code	Occupation	Functions	Definition
M1204	Management control	• Management controller (incl. financial controller, investment controller, business controller) • Controlling manager	Organises and controls the economic management (definition of objectives, activity indicators, performance measurement, etc.) of an organisation (company, subsidiary, local authority, etc.) and optimises its financial profitability in accordance with the strategic choices decided by the management bodies and regulations (commercial, fiscal and financial). May carry out prospective studies of the organisation's results. May coordinate a team.
M1205	Administrative and financial management	• Administrative director • Financial director • Administrative and financial director	Defines and supervises the administrative (procedures, operations, legal affairs, etc.) and financial (treasury, management control, etc.) management of an organisation in accordance with the strategic choices adopted by the management bodies and national or international regulations (financial, tax and commercial). May be in charge of human resources management. May define and implement a collections policy.
M1402	Organisational and management consulting	• (Organisational) project manager • Head of sustainability and CSR - Corporate Social Responsibility • Head of quality	Advises and assists company managers in developing strategies for transformation, adaptation and change management. Designs organisational and managerial change processes (human, technological, financial, IT, quality, safety, etc.) according to the expected objectives. May coordinate the activities of a team or manage a department.
M1501	Human resources assistance	• Human resources assistant	Carries out the administrative follow-up of personnel management (contracts, absences, medical visits, declarations to the social organisations, ...) and of the continuous training according to the social legislation, the work regulations and the human resources policy of the structure. May prepare and control salary slips. May follow up on outsourcing contracts for services (payroll, etc.). May coordinate a team.

Code	Occupation	Functions	Definition
M1502	Human resources development	• Recruitment manager • Career managers • Human resources development manager • Corporate training manager	Implements the recruitment or training policy according to the strategic orientations of the organisation and the targeted development objectives. Participates in the development of the company's employment policy. May coordinate a team or manage a department.
M1503	Human resources management	• Director of Human Resources • Human Resources Manager • Payroll and personnel administration manager	Defines and implements the human resources management policy (recruitment, remuneration, mobility, career management, etc.) of the organisation. Develops or supervises the administrative management of personnel (individual files, payroll, etc.). Controls the application of legal and regulatory obligations relating to working conditions and relations. Organises social dialogue and participates in internal communication operations linked to changes in the company. May participate in defining the strategic orientations of the organisation.
M1602	Administrative operations	• Administrative clerk	Carries out routine administrative work (checking documents, typing and formatting pre-established letters, following up on administrative files, etc.) according to the organisation of the organisation or department. May be in charge of reprography and archiving activities. May be responsible for the reception of the organisation.
M1604	Executive assistance	• Executive assistant • Office manager • Executive secretary	Assists one or more managers (executive, director, etc.) in order to optimise the management of their activity (planning, travel organisation, communication, preparation of meetings, reception, etc.). Organises and coordinates internal and external information, sometimes confidential, relating to the operation of the organisation. May take charge of the complete follow-up of files (equipment maintenance contracts, follow-up of customer reminders, administrative management of personnel, etc.) or of specific events (organisation of seminars, trade fairs, etc.). May coordinate a team.

Code	Occupation	Functions	Definition
M1607	Secretarial services	• Administrative assistant • Secretary • Legal secretary	Carries out the administrative processing of files (typing letters, formatting documents, etc.) and transmits information (e-mail, notes, faxes, etc.) on behalf of one or more departments or a manager, depending on the company's organisation. May take charge of the complete follow-up of files (maintenance contracts for equipment, the organisation, etc.). May coordinate a team.
M1608	Accounting secretarial services	• Accounting secretary	Carries out administrative and accounting management operations (recording entries, monitoring cash flow, invoicing, administrative management of personnel, drawing up estimates, etc.) for an organisation in accordance with general accounting rules. Can produce summary accounting documents. Can design tools for monitoring the activity of the organisation.
M1703	Product management	• Product manager • Market manager • Brand manager	Manages the evolution of a product or range of products, from its design to its marketing, according to the company's sales and marketing strategy. May coordinate a team.
M1705	Marketing	• Marketing manager • Digital marketing manager • Digital brand manager - online brand manager • Marketing assistant	Defines and implements the marketing strategy (prices, promotion, communication, product ranges, technical support, etc.) for all of the company's products. May manage a department or coordinate the activities of a team.

Code	Occupation	Functions	Definition
M1801	Information systems administration	Administrator • of IT • of databases • of servers • of network - telecom • of computer security	Administers and ensures the functioning and operation of one or more hardware or software elements (tools, networks, databases, messaging, etc.) of the company or an organisation. Ensures the consistency, accessibility and security of information. May coordinate a team.
M1802	IT expertise	• IT methods engineer • IT systems architect • Cloud architect • IT security architect • IT auditor, IT security • Expert penetration tester • IT security manager	Advises the company's IT and telecoms management on new technical developments and solutions (choice of software, hardware, network, etc.), with the goal of optimising and matching IT and telecoms resources with users' needs. Provides support (security, quality, methods, etc.) and technical assistance to the company's IT or telecoms teams (production, development), users and customers. Ensures compliance with quality and safety standards and procedures. May intervene directly on all or part of a project in his/her field of expertise.
M1805	IT development	• Project manager, IT design and development • Computer developer • Web developer • Big Data developer • Full-stack developer • Business intelligence developer - Business intelligence • Business analyst - Business intelligence • IT functional analyst • Computer application integrator • IT tester	Designs, develops and finalises an IT application project, from the study phase to its integration, for a client or a company according to functional needs and specifications. May lead development projects. May coordinate a team.

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ADEM launched the Future Skills Initiative in October 2020 as a framework that integrates the various projects related to the anticipation and development of future skills with the aim of employment preservation. This initiative is based on three pillars:

1. Conduct and contribute to national and sector-level studies on labour market developments and skills shortages,
2. Introduce new upskilling/reskilling programmes for jobseekers,
3. Raise awareness among employers when it comes to the importance of workforce planning (which includes proactively investing in the skills and employability of their employees) and develop a new programme to support employers in upskilling/reskilling their employees.

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