

IT Cost Survey for Swiss Banks 2020



Evaluation report, based on 2019 effective data and 2020 budget figures

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itopia is an IT and Management Consulting Boutique Focusing on the Banking Ecosystem.

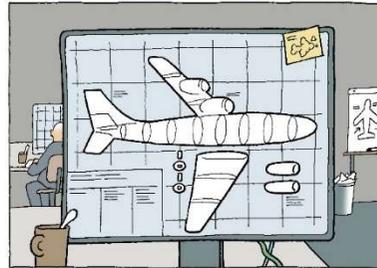


Imagining



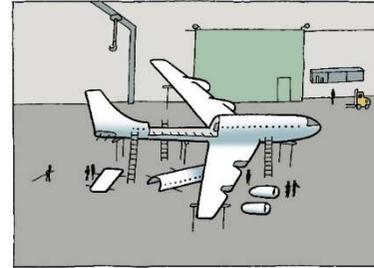
- Digitalization, Data and Technology Strategy
- Target Operating Model & IT Governance
- Project Portfolio Optimization
- Benefit Planning & Proof of Value

Fleshing Out



- Project Management
- Enterprise Architecture
- Partner Selection
- Technology Due Diligence
- Risk Strategy
- Toll Gate Assessments

Constructing



- Project Management
- Project Risk Management
- Solution Architecture
- Synthetic Data
- Data Migration
- Cloud Migration

Taking Off



- Rollout Concept
- Rollout Management
- Rollout Assessment

Key Conclusions 2020

1 – Possible change in trends for IT investments

The itopia IT cost index iR_{adj} remained stable in 2019 at 1.14, having risen for the first time in many years in 2018 from 1.07 to 1.14. The trend of always planning higher budgets has now broken: based on budget figures, a decrease in IT costs is expected, with a target value of iR_{adj} at 1.10 for 2020.

2 – Current time to market is an indicator that development and deployment processes are not yet sufficiently coordinated at many banks

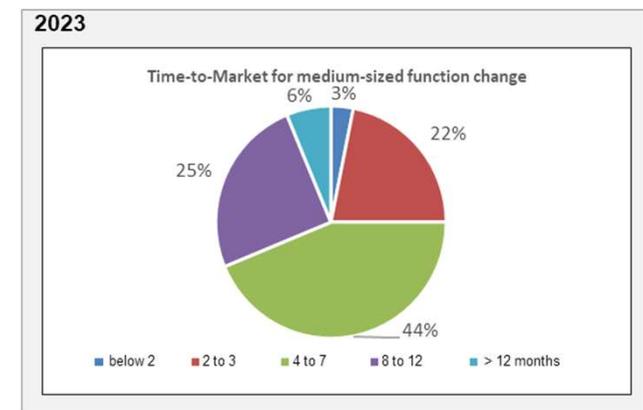
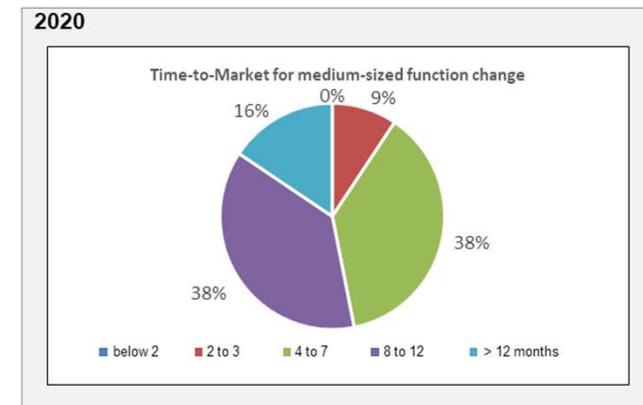
While a medium-sized change in function requires an expected optimum lead time of 3 months for pure analysis and development, the total lead time including production deployment at over 50% of banks is still 8 months or more.

3 – While many banks continue to rely on bimodal IT with two speeds, some are turning instead to a consistent agile IT architecture

Banks running the widely used Finnova and Avaloq systems and mainly external IT provisioning are experiencing stabilization and even sometimes a slowdown in the release cycle for core banking systems. The focus is on decoupling and increasing agility in the front systems area. However, banks with less widely used solutions and internal IT are relying on keeping core and front systems at the same speed, with up to 12 releases a year.

4 – Agility alone (in the sense of the immediate provision of functionality) does not (yet) seem to increase bank profitability

A shorter time to market and a higher number of deployment slots per year are not yet significantly correlated with the cost/income ratio (CIR), profit per employee, productivity, or IT costs per employee metrics.



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Introduction

IT cost survey

- Performed on a yearly basis since the year 2000, with more than 18,000 data points
- Participants are smaller (< 300 FTEs) to bigger (> 900 FTEs) retail and private banks
- Pragmatic approach: questionnaire with nine bank coefficients and profile for bank complexity (self-assessment)

Participants 2019/2020

- 37 banks: 26 retail banks, 11 private banks
- High constancy and comparability: ¾ of year 2000 participants are still participating today

iR = itopia ratio

- Main coefficient used in the itopia IT cost survey evaluation report
- Based on IT costs, balance sheet total, and assets under management
- We consider this coefficient to be better than volatile earning-based ratios (e.g. cost/income ratio)

Cost for data feed

Data feed expenses are considered “business costs”. Therefore, these costs are reported in a separate section and they are not included in the IT costs in IT cost-related analyses

iR_{raw}

$$iR_{\text{raw}} = \frac{\text{IT costs, not including data feed}}{1.1 \times (\text{balance sheet total}) + 0.3 \times (\text{assets under management})}$$

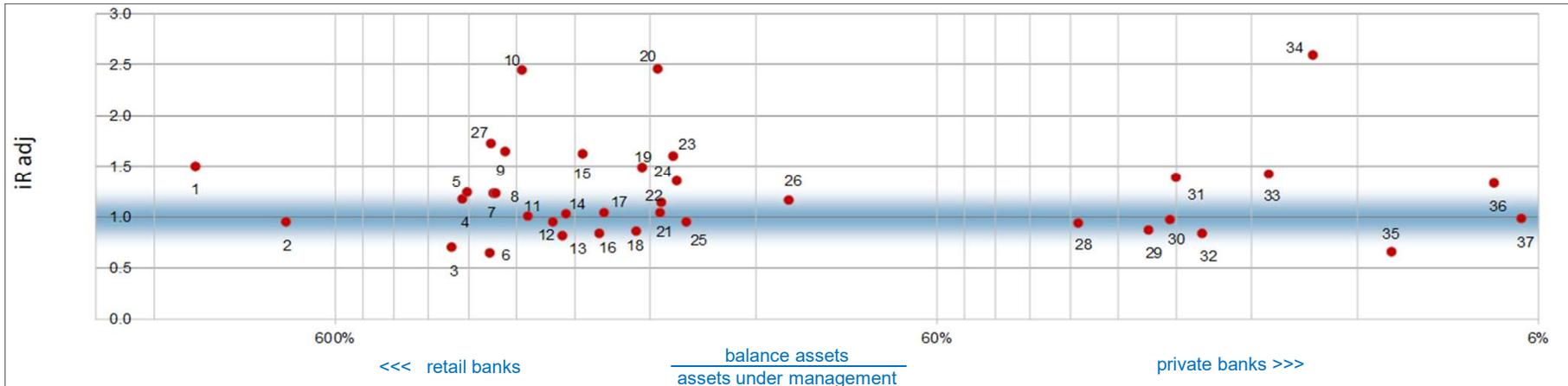
iR_{adj}

- The “bank complexity” factor (f_{Bank}) was taken into account to allow comparability of banks
- Bank complexity is derived from a profile assessed by the bank itself

$$iR_{\text{adj}} = \frac{\text{IT costs, not including data feed}}{1.1 \times (\text{balance sheet total}) + 0.3 \times (\text{assets under management})} \times \frac{1}{f_{\text{Bank}}}$$

Database 2019

IT Cost Coefficient iR_{adj} (Grouped by Business Model)



- The sorting criterion on this slide is balance assets divided by assets under management. The horizontal distance is measured in percentages. The closer two banks are, the more similar is their ratio of balance assets to assets under management, and consequently their business model.
- The red dots represent the adjusted IT cost coefficient iR_{adj} :

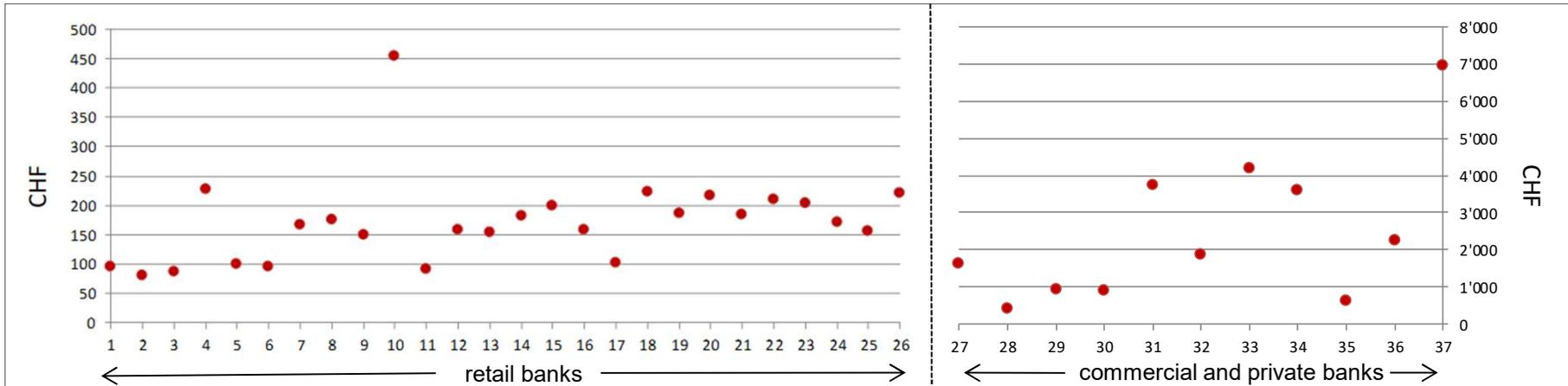
$$iR_{adj} = \frac{\text{IT Kosten ohne Datenfeed}}{1.1 \times (\text{Bilanzsumme}) + 0.3 \times (\text{verwaltete Vermögen})} \times \frac{1}{f_{\text{Bank}}}$$

- **15 banks** (9 retail and 6 private banks) reached an iR_{adj} of **1.0 or less** in 2019. The previous year showed 13 banks (6 retail, 7 private banks) in that zone.
- **4 banks have an iR_{adj} of 2.0 or more** (3 retail banks, 1 private bank). Compared to the previous year, this represents a stable situation, although the distribution was different; in 2018, 4 banks were above an iR_{adj} of 2.0 (2 retail and 2 private banks).

- The blue band represents the target zone for iR_{adj} : an ideal-typical bank would have an average iR_{adj} of 1.0 in the long run.
- A bank with an iR_{adj} of 2.0 spends 100% more on IT than an ideal-typical bank with an iR_{adj} of 1.0.
- The **situation is becoming increasingly stable for IT costs** in a ratio to business volume: the median remains practically unchanged from 2018 at 1.14 and variance also remained stable.

Database 2019

IT Costs per Customer – Retail Banks vs. Private Banks



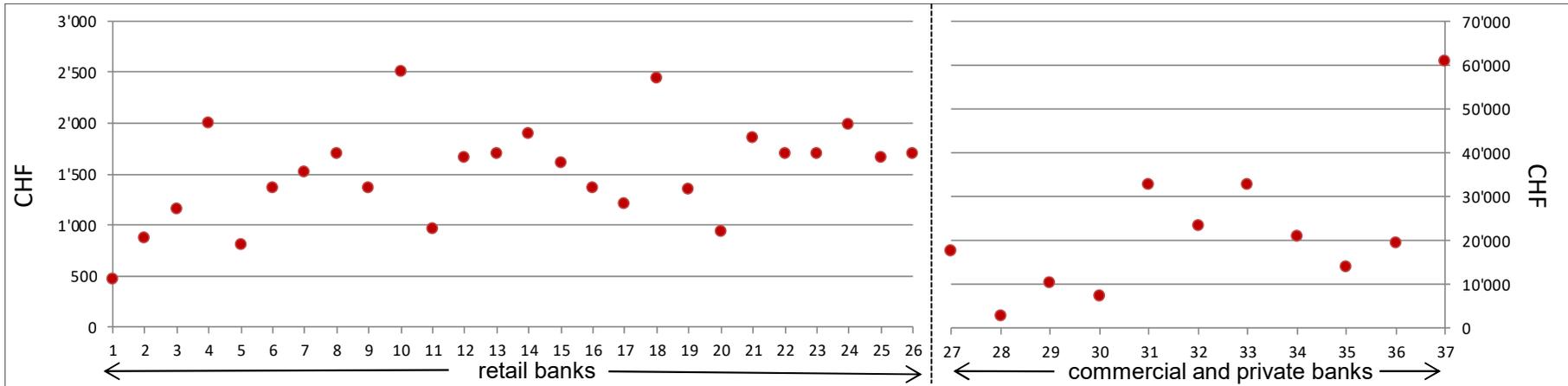
- IT expenses per active customer are significantly lower at retail banks than commercial and private banks: Different scales are therefore used for the two business models.
- The difference between retail and private banks is shown on the revenue side per active customer (see slide 8).

- Among **retail banks**, the IT costs per active customer vary between almost CHF 80 and CHF 252, with one exception at CHF 455. The **median of IT costs per customer is CHF 170**.
- Among **private banks**, the IT costs per active customer vary between CHF 420 and almost CHF 4,200, with one exception at CHF 6,960. The **median of IT costs is CHF 1,875**.

- Variance has increased among all bank types compared to 2018: **This development is possibly the result of different speeds for digitalization.**

Database 2019

Operating Income per Customer - Retail Banks vs. Private Banks



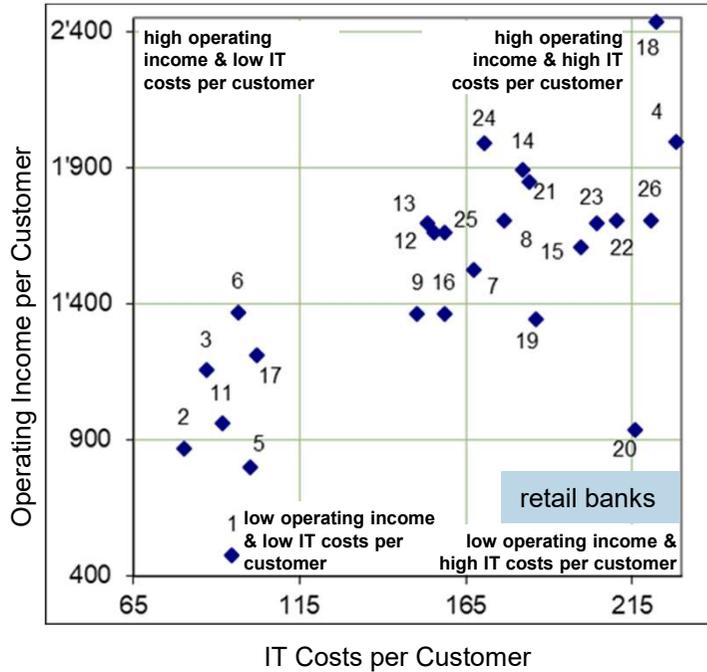
- The operating income per active customer is significantly lower at retail banks than commercial and private banks: Different scales are therefore used for the two business models.
- A consolidated view of operating income and IT costs per customer can be found on slide 9.

- Among retail banks, the operating income per active customer ranges between CHF 475 and CHF 2,500. Most retail banks earn between CHF 1,000 and CHF 2,000 per year and active customer. **The median for retail banks is CHF 1,635.**
- Among private banks, the operating income per active customer varies between CHF 2,950 and CHF 32,800, with one exception at CHF 61,000. The spread is as great as for IT costs. **The median for private banks is CHF 19,500.**

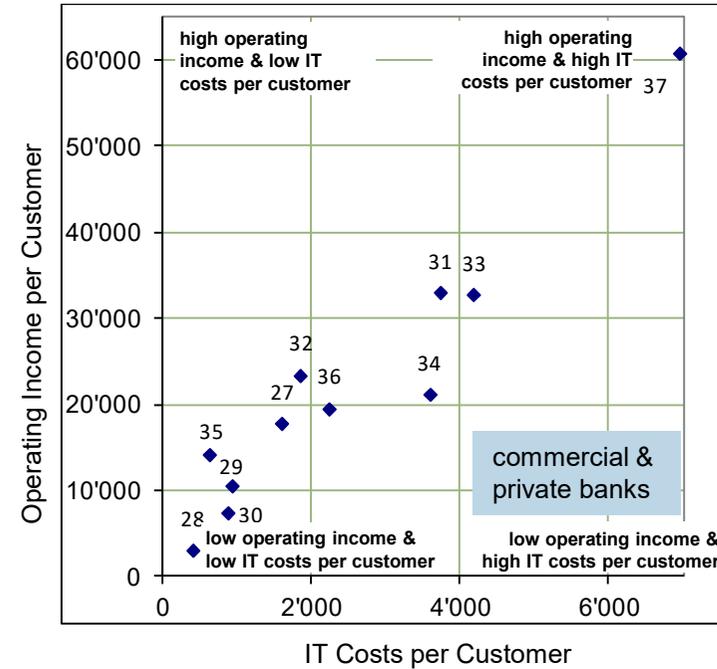
- **The development of operating income per active customer remains an important issue** for the banks: While private banks only experienced a 2% drop compared to the previous year, the retail banks suffered a 6% drop. This means that it remains vital to assess **IT investments in digitalization** in terms of their capacity to generate **additional income or lower costs per customer**.

Database 2019

Operating Income in Relation to IT Costs per Customer



*)



- These charts show operating income in relation to bank IT expenditure, both per active customer.

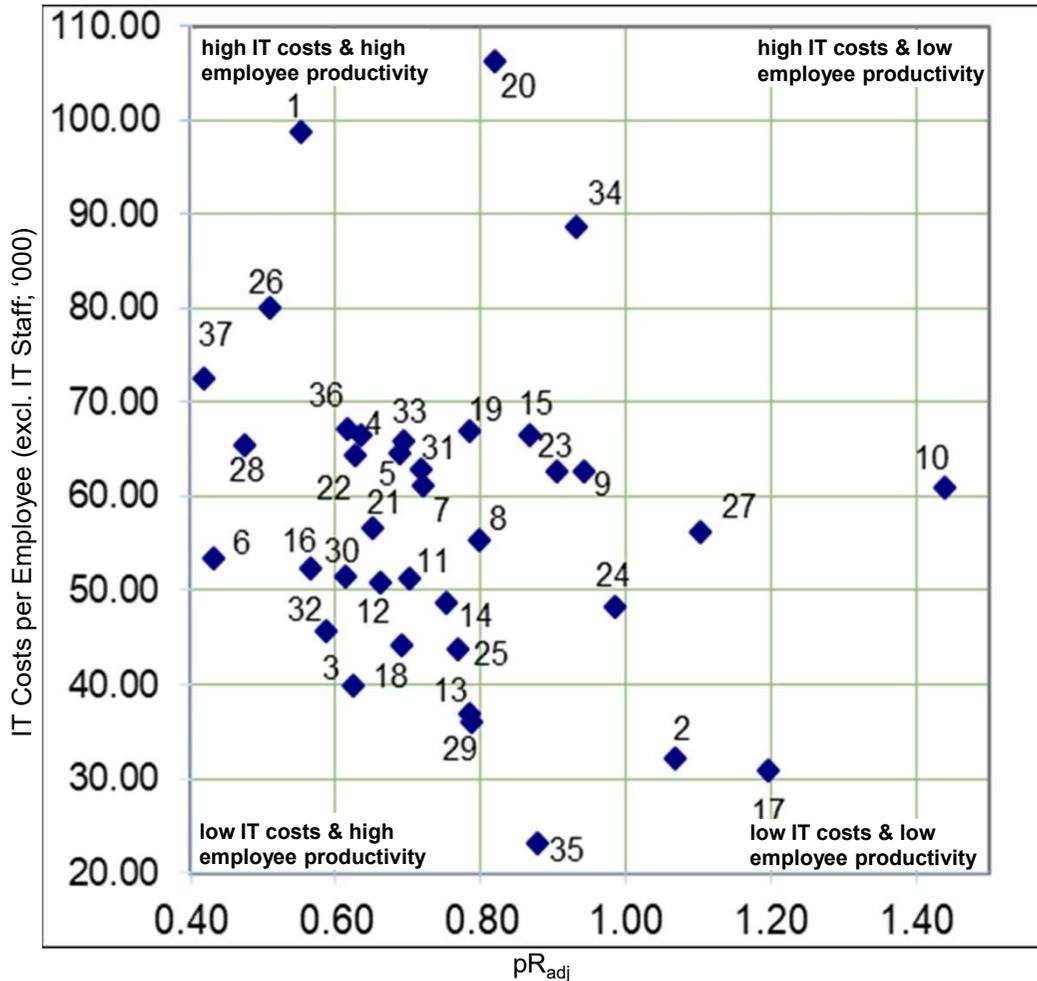
*) Bank ID 10 is out of range; values are operating income per customer: CHF 2,505 / IT costs per customer: CHF 455.

- The **retail banks** demonstrate a constant but **not particularly high correlation** of the two values compared to 2018.
- In contrast, the **private banks** had already previously demonstrated **high correlation and this continued to increase in 2019**.

- In particular, retail banks with **low income** and **high IT costs per active customer** have room to maneuver for strategic and/or tactical improvements.
- If banks with **high IT costs** earn **high operating income** at the same time, an assessment depending on business model and staff costs is required.

Database 2019

IT Costs per Bank Employee (excl. IT Staff) in Relation to pR_{adj}



This chart shows **IT costs per bank employee** in relation to the bank's staff productivity pR_{adj} .

In 2019, the banks were able to **further increase employee productivity** and moved closer together:

- Both the median and variance of pR_{adj} were reduced slightly in comparison to 2018.

There is room for strategic and/or tactical improvements for banks that have:

- **High IT costs per bank employee and low staff productivity**
IT investments may not be effective at increasing productivity.
- **Low IT costs per bank employee and low staff productivity**
IT may not receive sufficient management attention and funding to support the bank's operational efficiency.

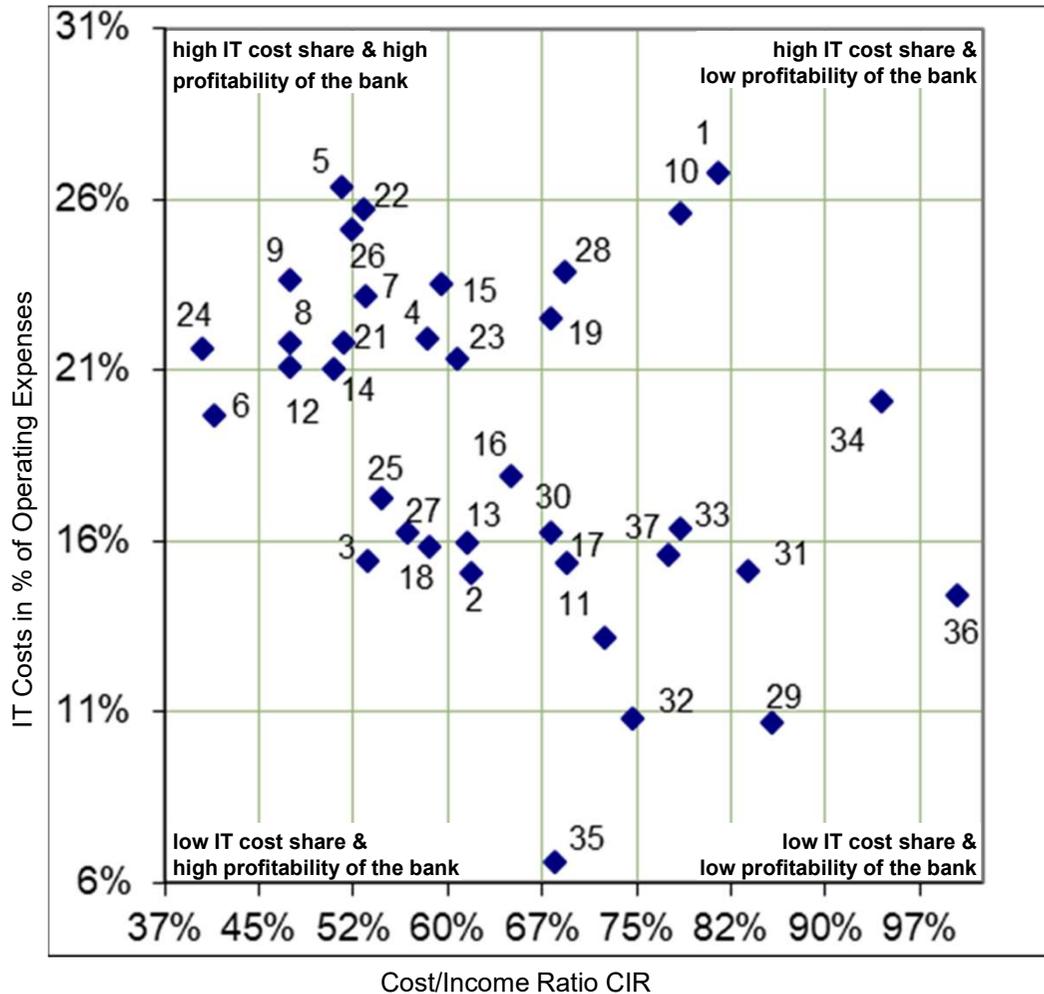
Ideally, automation and digitalization will result in above-average staff productivity that more than compensates for higher IT costs.

Banks with **low IT costs per bank employee** and **high staff productivity** must constantly monitor operational risks and market trends. They should also prevent the build-up of ungoverned "shadow IT".

$$pR_{adj} = \frac{\# \text{ bank employees (excl. IT staff)}}{30 \times (\text{balance sheet total}) + 10 \times (\text{assets under management})} \times \frac{1}{f_{\text{Bank}}}$$

Database 2019

IT Costs in % of Operational Expenses in Relation to CIR



This chart presents **IT costs as a percentage of operating expenses OPEX** in relation to the bank's **cost/income ratio CIR**.

IT costs as a percentage of operational expenses have continued to increase, with a median of 20% in 2019.

There is room for strategic and/or tactical improvements for banks that have:

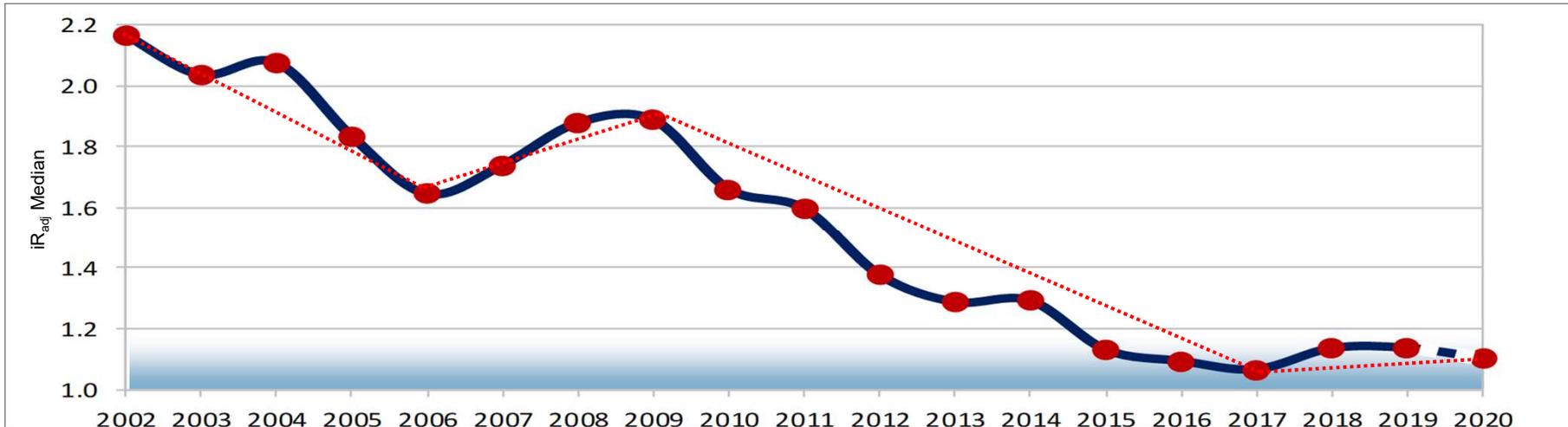
- **High cost share and low profitability**
Investments in IT do not contribute sufficiently or at all to profitability. The bank may be in the middle of an investment cycle, with IT investments often only influencing profitability after a delay of 3–4 years.
- **Low cost share and low profitability**
Too little investment is made in IT; the bank may be in a consolidation phase. If not, consider making targeted IT investments to increase profitability.

Banks that invest effectively in their IT have a **high cost share**, but are **profitable**.

Banks that have a **low cost share** but are nevertheless **highly profitable** may have increased strategic and operational risks.

Development over Time 2002–2019

IT Cost Coefficient iR_{adj} – Median of All Participants



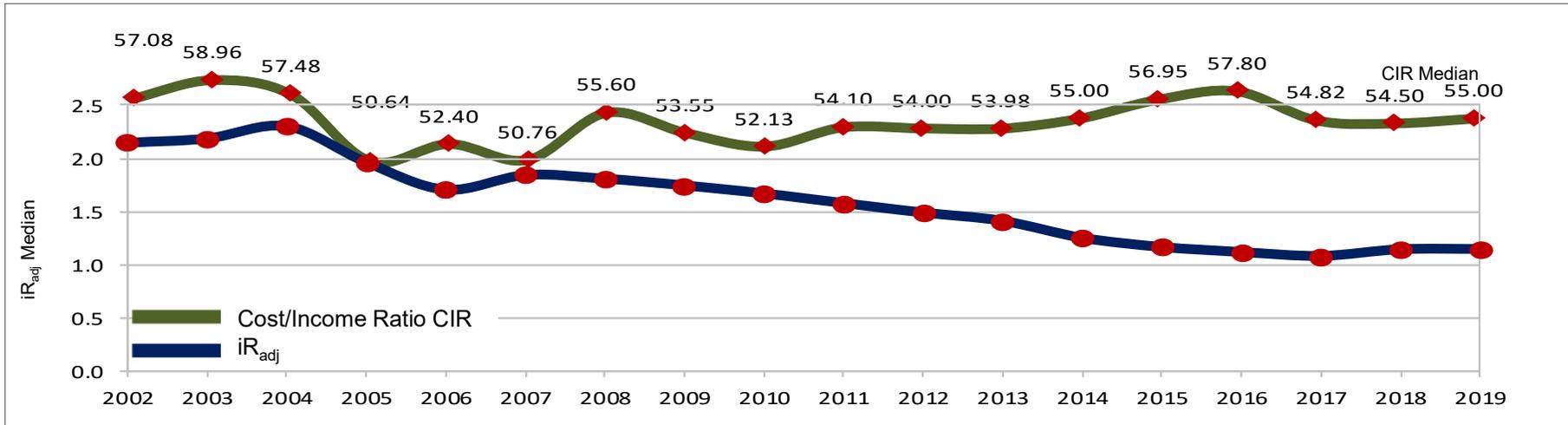
- Red dots: IT cost coefficient iR_{adj} calculated as the median for all participating banks, with an outlook into 2020, based on available budget figures.
- 2002 to 2006 and 2009 to 2016 were periods with an accelerated improvement of the iR_{adj} by about 6% p.a. on average. The increase in 2007 and 2008 was the result of the financial crisis.

- The itopia IT cost coefficient iR_{adj} remains stable in 2019 at 1.14, having risen for the first time in many years in 2018 from 1.07 to 1.14.
- Based on the reported budget 2020 figures, we expect the itopia IT cost coefficient iR_{adj} to fall to 1.10 in 2020.
- 10 retail banks and 6 private banks have a rising iR_{adj} value compared to 2018, while 14 retail banks and 5 private banks managed to lower their iR_{adj} again in 2019 or kept it at the same level.

- It remains to be seen whether the IT cost benchmark will return to the downward trend it had from 2009 to 2017.
- It is also impossible to predict the effects of the coronavirus pandemic on actual costs. Both the itopia models and the survey of selected banks have resulted in a mixed picture. Some banks are taking the situation as an opportunity to drive forward additional digitalization initiatives. Others are continuing their planned projects with slight budget transfers or changes to selected projects in the portfolio.

Development over Time 2002–2019

IT Cost Coefficient & Cost/Income Ratio – Retail Banks



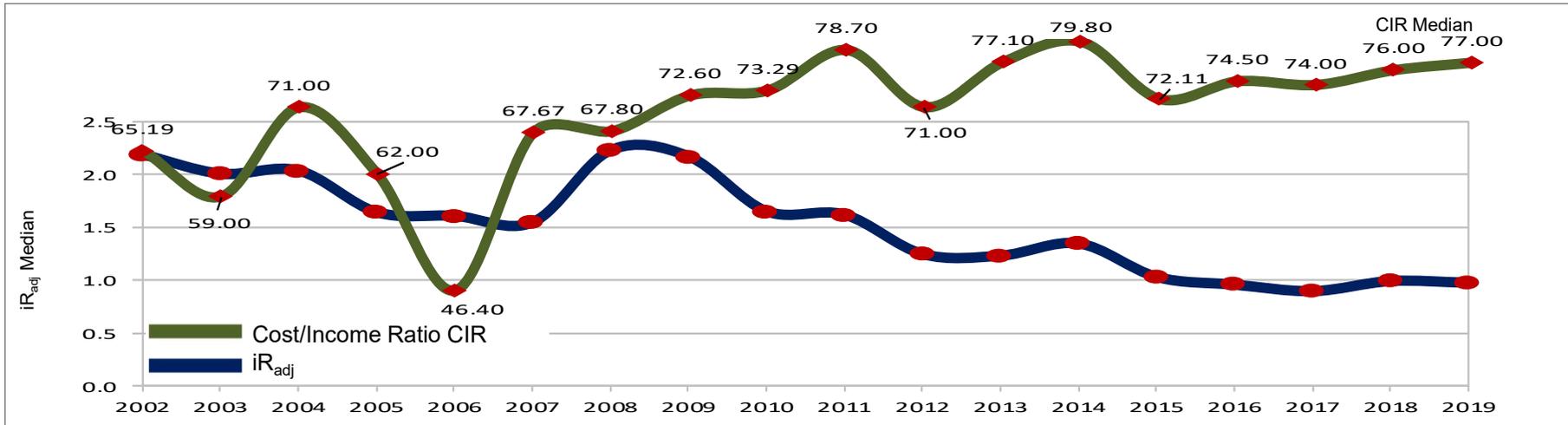
- The chart shows the development of the cost/income ratio CIR in comparison to the development of the itopia IT cost coefficient iR_{adj} for retail banks.
- Given the delayed effect of IT investment decisions, iR_{adj} is better than more volatile metrics such as IT costs in relation to the cost/income ratio CIR.

- For retail banks, the IT cost coefficient iR_{adj} and the cost/income ratio CIR were positively correlated between 2002 and 2009 (at 0.70).
- **From 2010 to 2017, iR_{adj} and the cost/income ratio CIR were negatively correlated.**
- From 2010 to 2016, the median CIR of retail banks rose from 52% to almost 58%. In 2017, the trend was broken and the **CIR median has been between 54.50% and 55% ever since.**

- Improvements in the governance of core IT areas had an effect from 2010 until 2017.
- If **governance models are not adjusted**, the current increase in **decentralized decisions** poses a risk for overall IT costs and productivity.
- In the long term, fragmented solutions could also result in additional expenditure and operational risks.

Development over Time 2002–2019

IT Cost Coefficient & Cost/Income Ratio – Private Banks



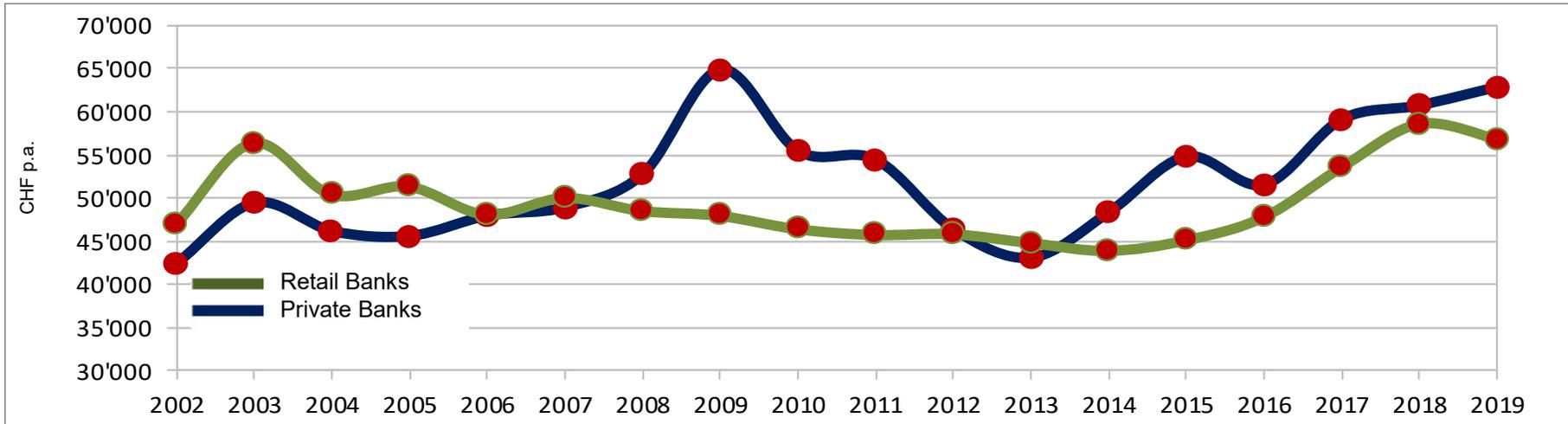
- The chart shows the development of the cost/income ratio CIR in comparison to the development of the itopia IT cost coefficient iR_{adj} for commercial and private banks.
- Given the delayed effect of IT investment decisions, iR_{adj} is better than more volatile metrics such as IT costs in relation to the cost/income ratio CIR.

- For private banks, the IT cost coefficient iR_{adj} and the cost/income ratio CIR between 2002 and 2009 were similarly positively correlated, albeit in a looser way.
- Figures for 2019 show that the CIR increased for the participating banks from 76% to 77%. The **IT cost coefficient iR_{adj} remained at the same level (0.99)**.

- Private banks had more room for maneuver in terms of improvements in IT governance than retail banks:
IT cost efficiency among private banks improved even more in comparison to retail banks between 2009 and 2015 in particular. Stringently controlled IT helped the banks stabilize their overall profitability.
- **Stable since 2015, the value for iR_{adj} may now indicate that an increased focus on digitalization and staff productivity is necessary.**

Development over Time 2002–2019

IT Costs per Bank Employee – Retail Banks vs. Private Banks



– The chart shows the development of IT costs per bank employee for both groups of participating banks.

– Until 2006, IT costs per bank employee were significantly higher for retail banks than private banks (up to 10%).

– In 2019, private banks continued to invest more in IT per employee (+3.5%), while retail banks held back (-3.1%).

– Between 2017 and 2019, IT costs per employee increased to the same extent for both business models (approx. +6%). While the retail banks made significant investments in 2017 and 2018, the private banks recorded a continuous rise.

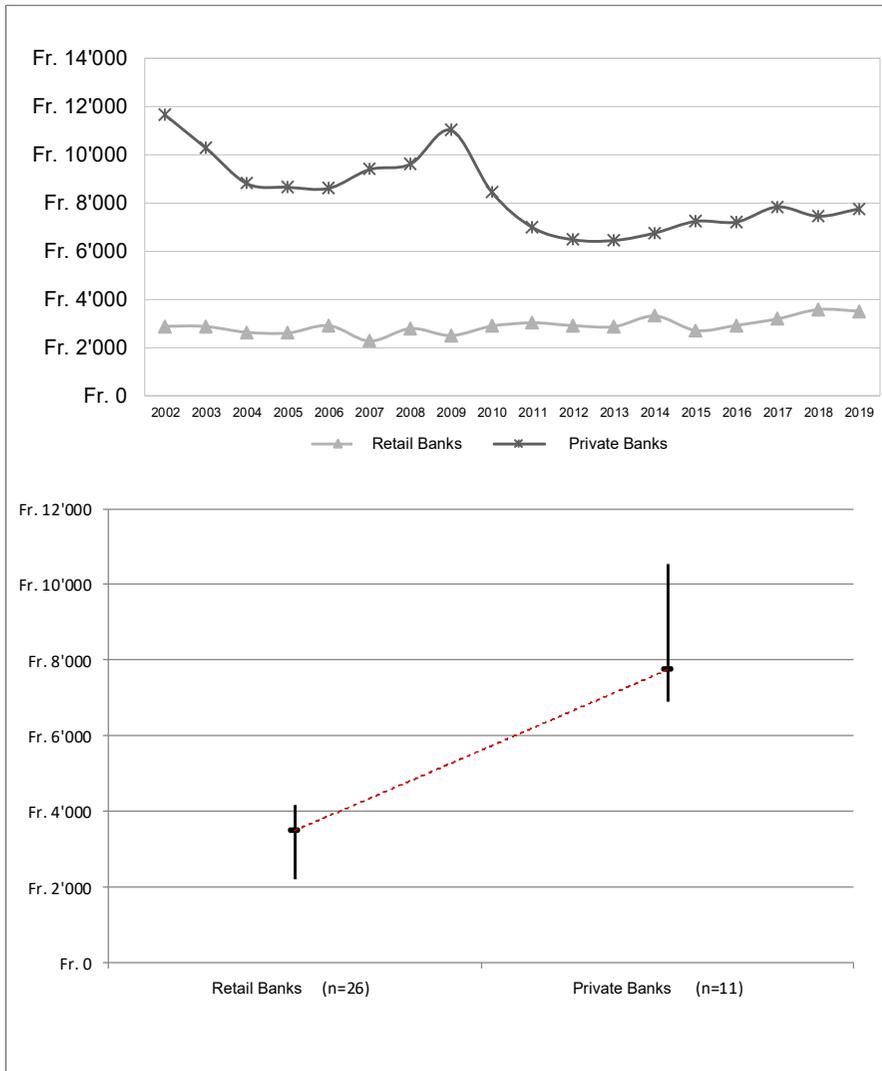
– Private banks were more strongly affected by the financial crisis in terms of the number of employees. The resultant focus on IT governance helped the private banks align their IT investments with staff and business development.

– There seems to be consolidation among the retail banks and the implemented digitalization projects in particular should now prove their impact.

– Private banks with a lower number of employees (on average) will have to continue bearing higher base costs per employee.

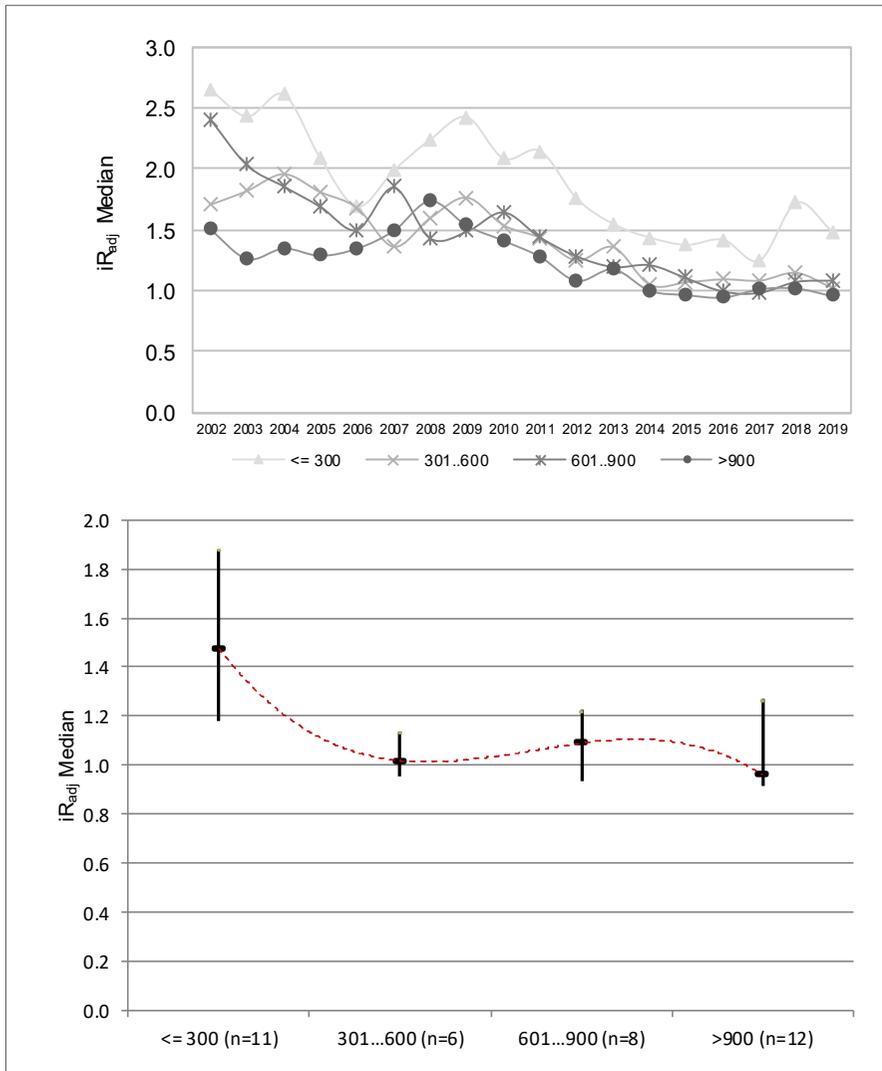
Development over Time 2002–2019

Costs for Data Feed per Bank Employee in Relation to Bank Type



- itopia considers the costs for the data feed as “business costs”. For this reason, these costs are not taken into consideration as IT costs in all other assessments.
- At retail banks, the costs for the data feed per bank employee fell slightly for the first time in 3 years (-1.7%).
- In contrast, the costs for the data feed per bank employee at private banks rose again (+4.1%) and are now almost back at the level of 2017.
- Compared to retail banks, private banks show a significantly higher range in their data feed costs. However, compared to last year, the range at private banks has fallen from CHF 4,765 to CHF 3,636, but has risen at retail banks from CHF 1,680 to CHF 1,989.
- The availability of information about lower costs and optimizations relating to procured data seem to have no longer led to significant improvements over the last few years.
- Specific aspects of the business model, particularly for private banks, have a major effect on data feed costs. This means that generally applicable conclusions are not helpful without a concrete assessment.

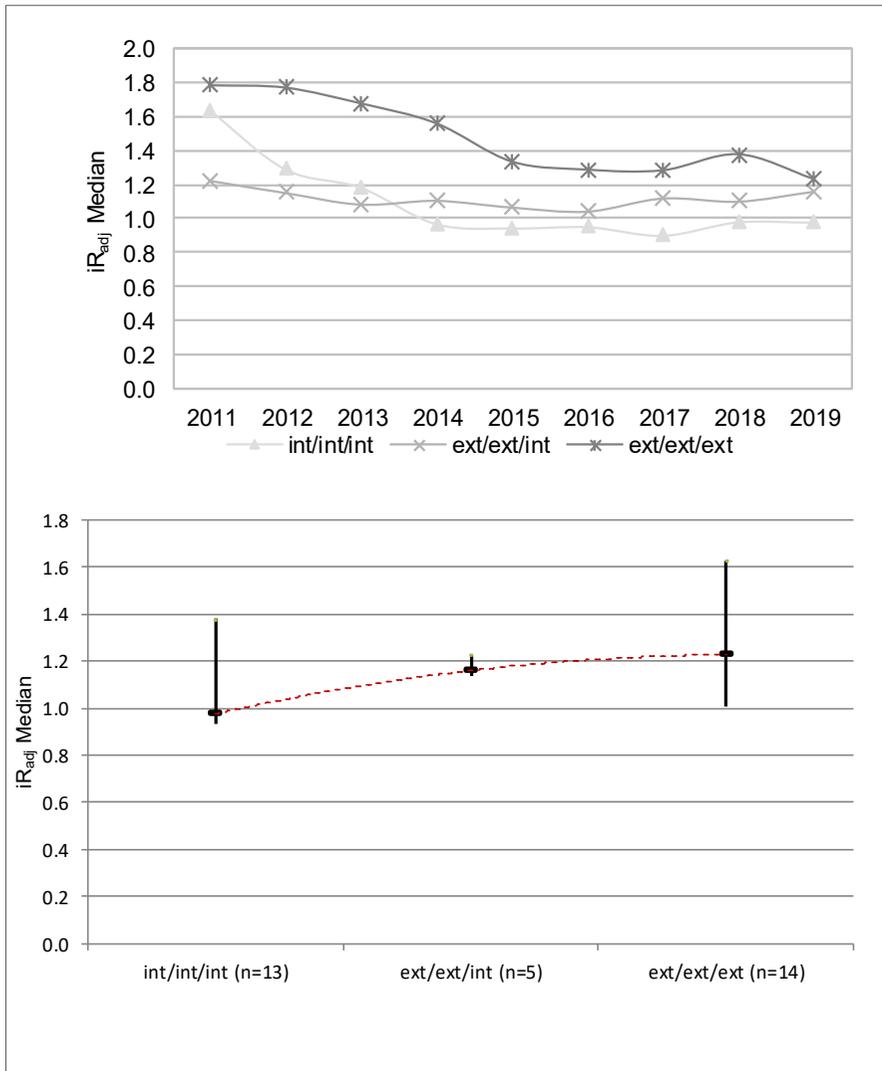
Development over Time 2002–2019 IT Cost Coefficient iR_{adj} in Relation to Bank Size



- The chart shows the development of the itopia IT cost coefficient iR_{adj} for banks of different sizes:
 - Banks with up to 300 full-time employees
 - Banks with 301 to 600 full-time employees
 - Banks with 601 to 900 full-time employees
 - Banks with over 900 full-time employees
- In 2019, **banks with 601–900 bank employees managed to remain at a similar iR_{adj} level (1.09).**
- The largest banks managed to achieve slight improvements and remained ahead with a median iR_{adj} of 0.96.
- Banks with 301–600 employees were able to make tangible improvements to the iR_{adj} ideal value of 1.02.
- **Small banks managed to reduce the high figure of 1.72 from 2018, achieving an iR_{adj} of 1.48.**
- **Large banks seem to manage to offset the costs of their rather complex structures and processes with economies of scale.** The higher proportion of internal IT also had a positive effect on total IT costs. It is also worth bearing in mind that some of the large banks experience a dampening effect due to the inclusion of f_{bank} in the calculation of iR_{adj} .
- While **banks with more than 300 employees all achieve similar IT cost efficiency**, the figures for **small banks show the limits of economies of scale for current sourcing models.**

Development over Time 2002–2019

IT Cost Coefficient iR_{adj} in Relation to IT Sourcing Policy



- The charts show the influence of the IT sourcing model on IT cost efficiency.
 - They differentiate between three areas that can be covered internally or externally:
 - Area 1: Infrastructure operations (ITO)
 - Area 2: Application operations (AO)
 - Area 3: Application management (AM)
 - Three sourcing model classes are shown.
 - **Entirely internal sourcing of IT** (int/int/int)
 - **External infrastructure and application operations** (ext/ext/int)
 - **Complete outsourcing** (ext/ext/ext)
 - 5 banks have other IT sourcing policies with low occurrences and are not included for statistical reasons.
-
- The **class of banks with entirely internal IT improved further in 2019.**
 - The **variance continues to be ideal for external infrastructure and application operations and internal application management** in terms of cost management.
 - It is also still clear that banks with **entirely external sourcing of IT services face the greatest challenges in terms of IT cost management.**

Agility and Time to Market Motives and Method for Study



Theory

Banks that can adapt quicker to changing market environments as a whole company are more successful in terms of profitability, effectiveness, and efficiency.

Method

Two values from participating banks were recorded in the 2020 focus topic to study this theory:

1. Agility within the organization

The selected indicator was the **time taken for a “medium-sized” change in function** (corresponding in financial terms to approx. CHF 150,000 in costs or approx. 100 person-days in expenses) from idea to deployment in production. (so-called “time to market”)

2. Fitness of IT operations

The selected indicator was the **number of slots per year available to deploy new functionality in production**, separated into slots for core banking and front systems.

The aforementioned collected bank data was correlated to the bank coefficients collected or calculated by itopia:

Profitability: Cost/income ratio CIR

Effectiveness: Profit/employee, IT costs in % of operating costs

Efficiency: IT costs/employee, pR_{adj} , iR_{adj}

Expected results confirming the theory:

1. Positive effect on the specified coefficients with an increasing number of deployment slots per year
2. Positive effect on the specified coefficients as time to market decreases



None of the studied coefficients correlate with sufficient significance to the collected data about time to market or the number of deployment slots per year for core banking or front systems.

It must therefore be assumed that **agility in the provision of functionality per se does not necessarily make a positive contribution to the profitability of the banks** (without considering the actual contents).

Agility and Time to Market

Summary of Results



A “medium-sized” change in function was assumed when collecting data. This was defined in financial terms as costs of CHF 150,00 or expenses for approx. 100 person-days.

The **banks intend to almost halve the time taken for a “medium-sized” change in function from idea to deployment in production, from 10 months at present to 5.5 months by 2023.** They are approaching the provision of deployment slots in different ways here.

The number of **deployment slots per year for core banking systems is currently 4** and is intended to only slightly increase to 4.5 by 2023. However, for **front systems, the average number of releases is currently 5 and the aim is to almost double this to 9 by 2023.**

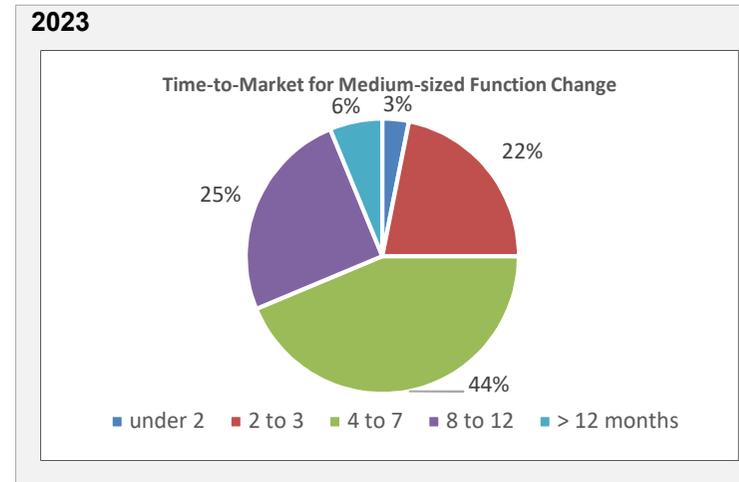
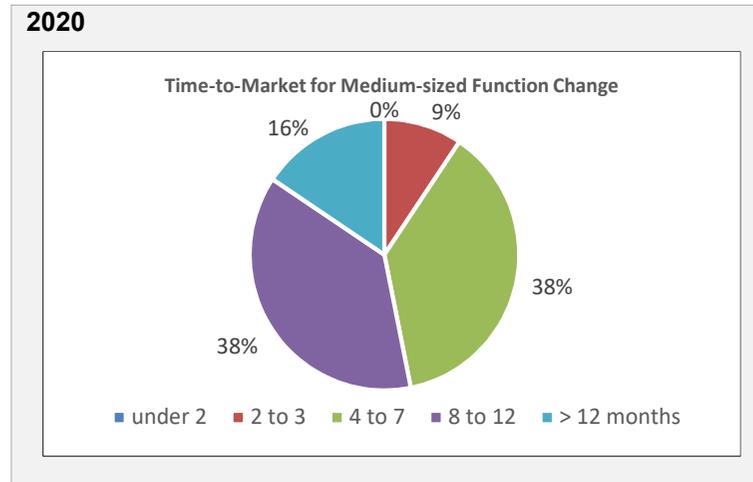
The banks’ reasons are unanimous:

- **Core banking systems** have been in use for longer by banks, meaning that the primary focus here is on **minimizing changes, saving on costs, and increasing quality.**
- The **front systems** are newer due to growing digitalization initiatives and are subject to frequent changes in order to give the banks **more agility** on the market.
- At the same time, it is **primarily smaller releases that are planned for front systems**, in order to reduce complexity and increase stability. This is because any deployment glitches are highly visible on the market and could cause damage to the bank’s reputation.
- Finally, the use of third-party products also leads to requirements for a higher number of deployment slots per year.

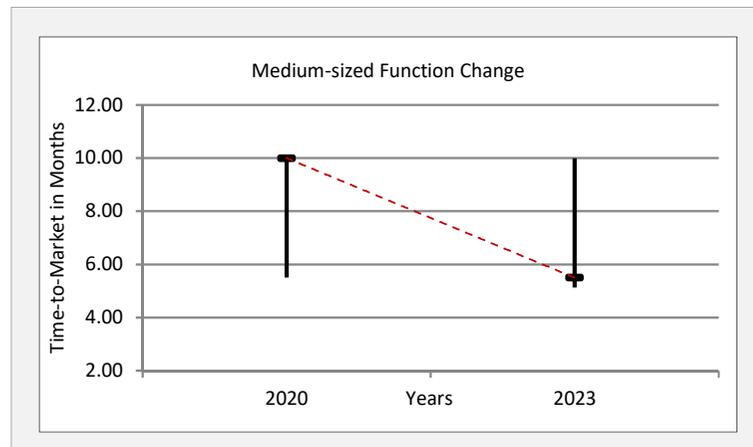


A medium-sized change in function has an expected optimum runtime of 3 months for pure analysis and development.
Compared to the number of deployment slots per year (4), **the current average time to market of 10 months is an indicator that development and deployment processes are not yet sufficiently coordinated at many banks.**

Agility and Time to Market Results – an Overview of All Banks (1)



- In 2020, a change in function takes between 4 and 12 months for most banks.
- By 2023, the general expectation is that the average time to market will be reduced for changes in function.

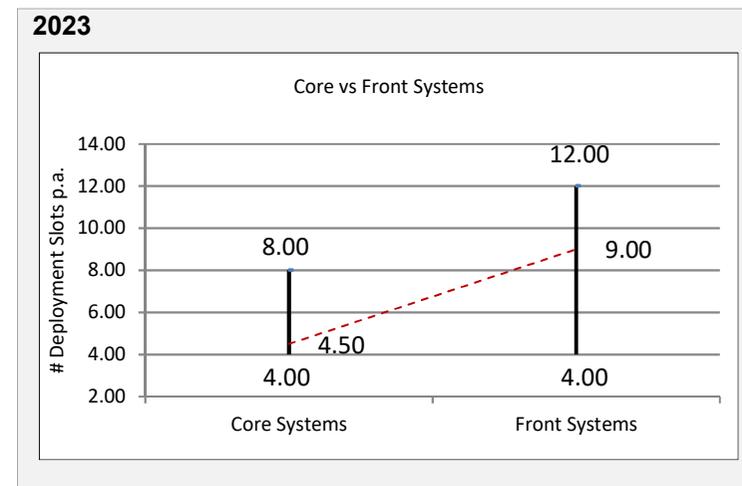
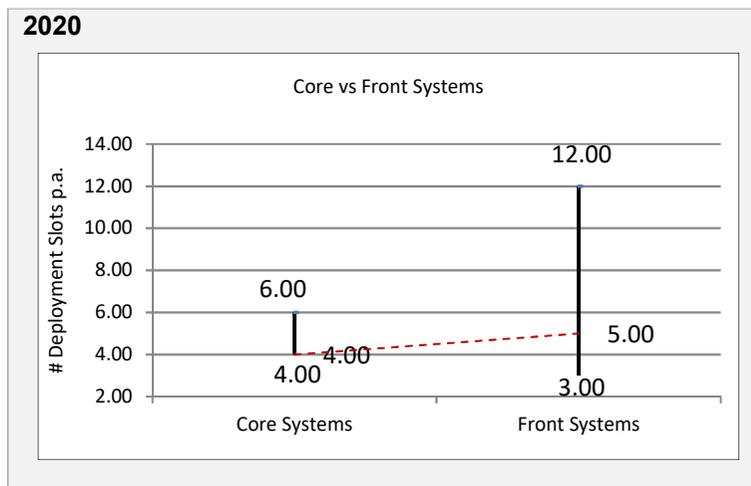


- Although the range will remain the same in terms of length, the median across all banks for the period from 2020 to 2023 will shift from maximum to minimum.
- This means almost **halving the time to market** for medium-sized changes in function among most banks.

Agility and Time to Market

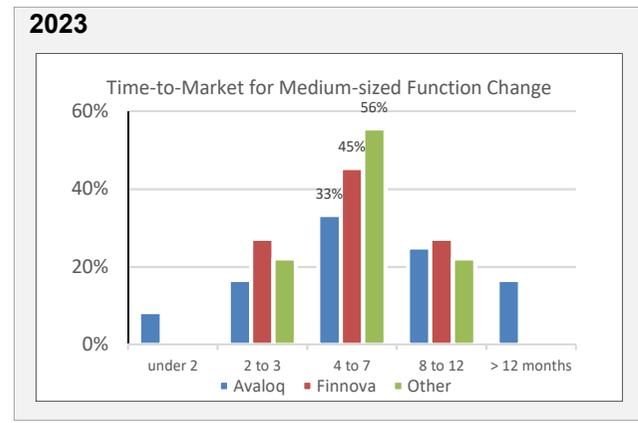
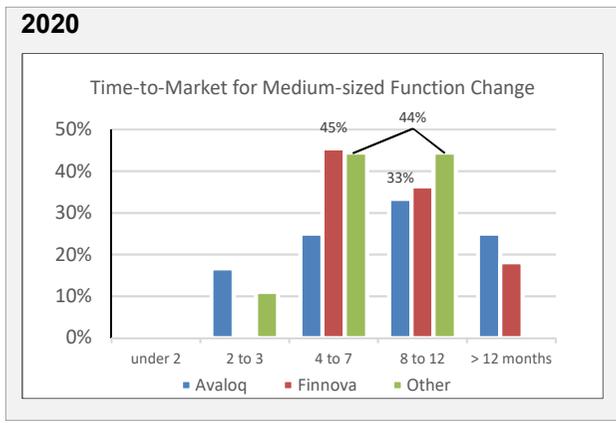
Results – an Overview of All Banks (2)

- At the moment, the **difference in the number of deployment slots per year in the various different systems** is still low: in 2020 there are on average 4 deployment slots for core banking releases and 5 annual releases for front systems. However, the range for front systems is considerable.
- **By 2023, the number of deployment slots per year should almost double, mainly for front systems,** reaching 9 in comparison to the current 5. It is also likely that 2023 will involve a large, only slightly reduced range in comparison to 2020.
- In terms of the core banking systems, however, most banks seem to have decided on consolidation. The average number of deployment slots will only increase slightly from 4 in 2020 to 4.5 in 2023.



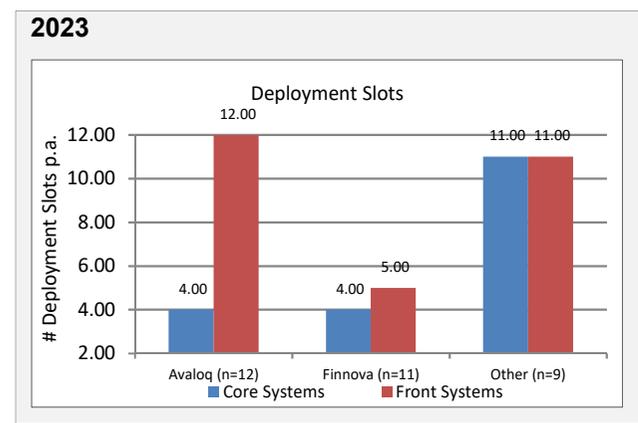
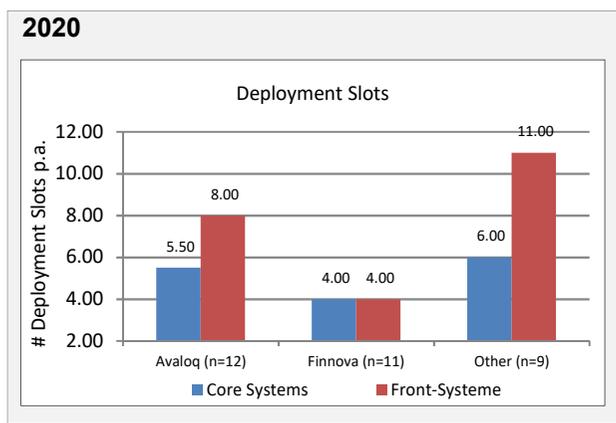
- **Participating banks show major differences between their approaches** both in 2020 and increasingly in 2023. This will be shown in detail on the next slides.

Agility and Time to Market System-related Observations



When it comes to time to market, the aim is to accelerate development processes irrespective of the core banking system being used.

Banks using Avaloq currently require comparatively longer than banks using Finnova; the plan is to balance this out. Some banks using other systems *) have more ambitious plans with some of them even aiming for a time to market of under 2 months in the core banking system environment.



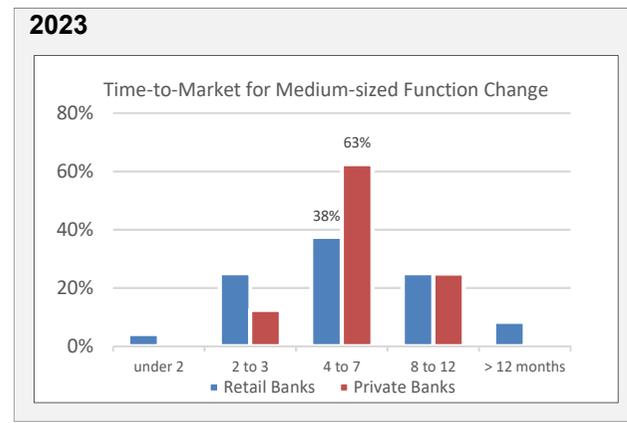
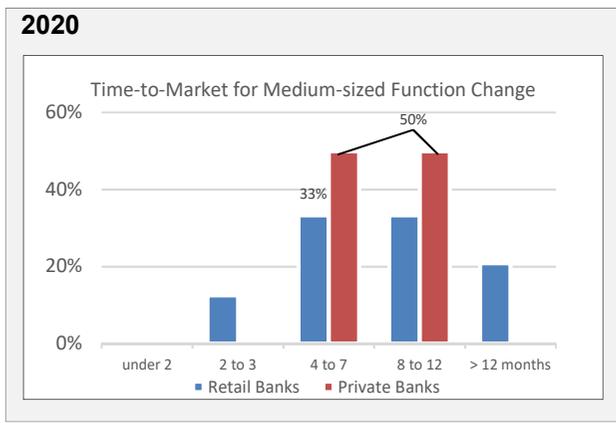
Only the users of other systems intend to increase the number of deployment slots in the core banking system to the level of the front systems.

Avaloq banks are obviously concentrating on front agility.

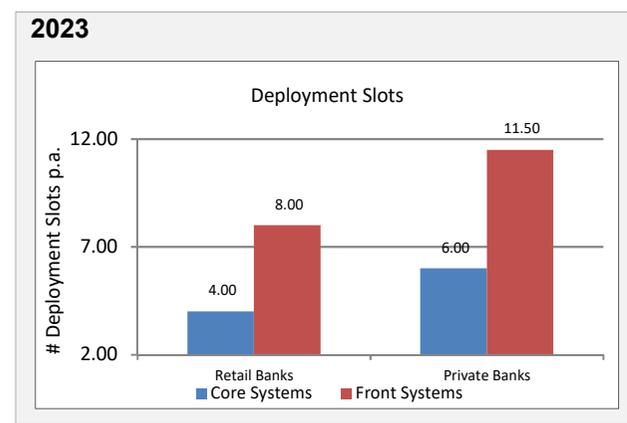
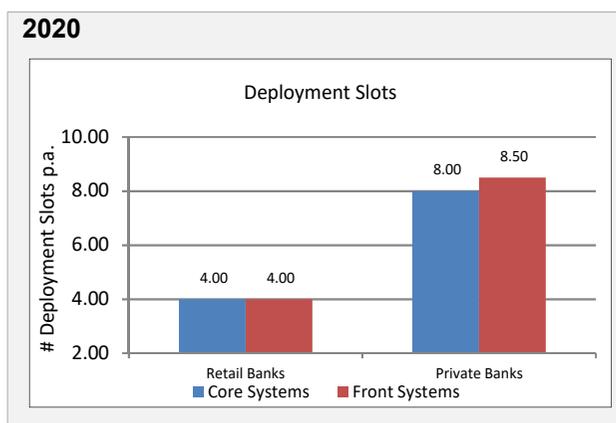
There seems to still be a need for coordination, particularly among banks using Finnova: with only a slight increase in cycle rates, it will be challenging to achieve the planned time to market improvements.

*) "Other" includes Temenos/T24, Olympic, and proprietary systems.

Agility and Time to Market Observations in Relation to Bank Type

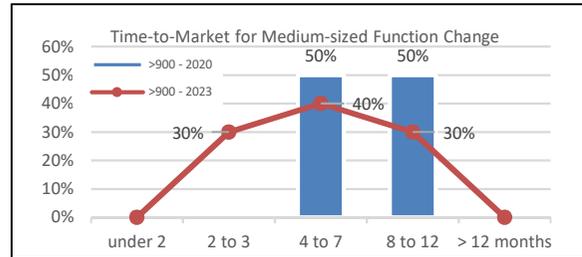
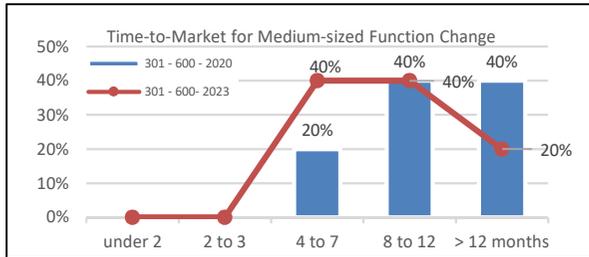
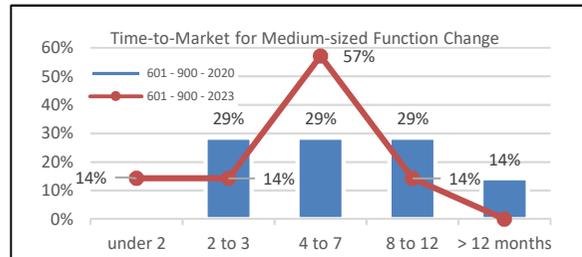
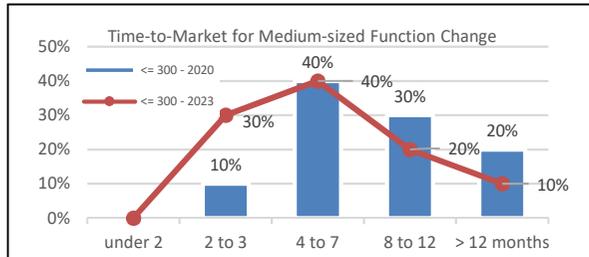


There is only a clear and present intention to reduce time to market among the private banks. Retail banks are planning on the disappearance of long time periods and are now also increasingly focusing on short runtimes.

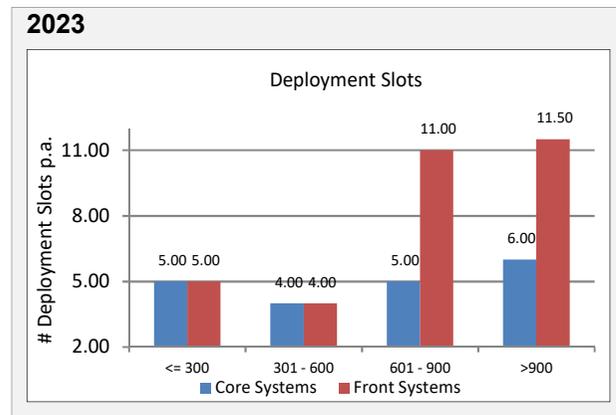
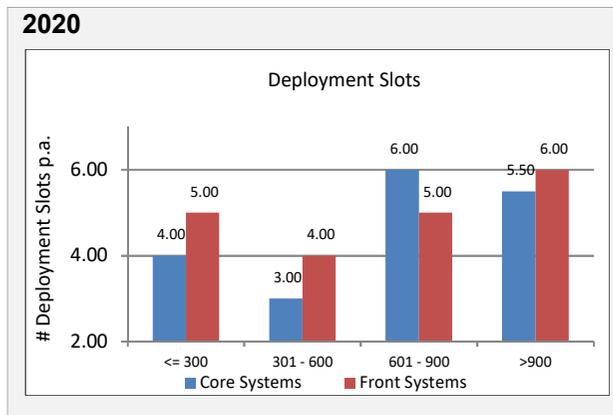


In terms of deployment slots, it is clear that both bank types are following a general trend of scheduled duplication for front systems and a desire for stabilization for core banking systems. However, in general, private banks are obviously more often in the position to deploy new functionality in production than retail banks.

Agility and Time to Market Observations in Relation to Bank Size



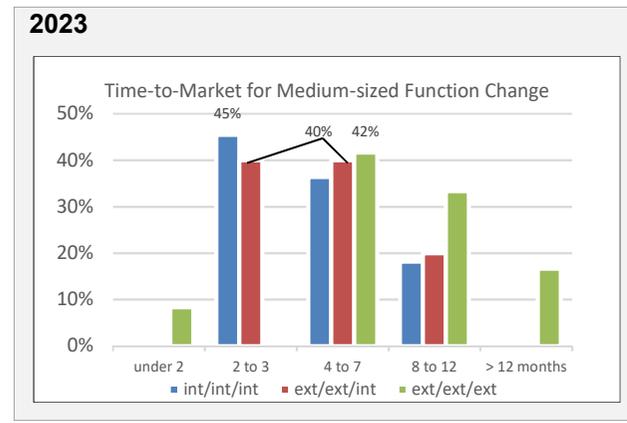
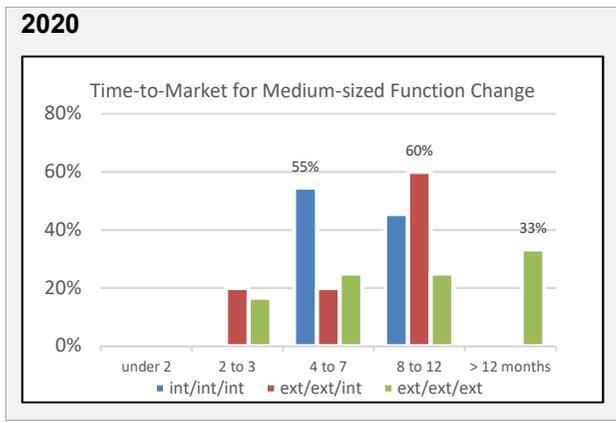
The banks' plans all indicate shorter development and deployment processes to differing extents in 2023. The majority of the banks seem to be aiming for 4 to 7 months for medium-sized projects.



The focus on front systems is already clear to see among banks with 601 employees or more.

The smaller banks are aiming for longer cycles in both the front and core banking systems. This will be particularly challenging if they also try to reduce time to market at the same time.

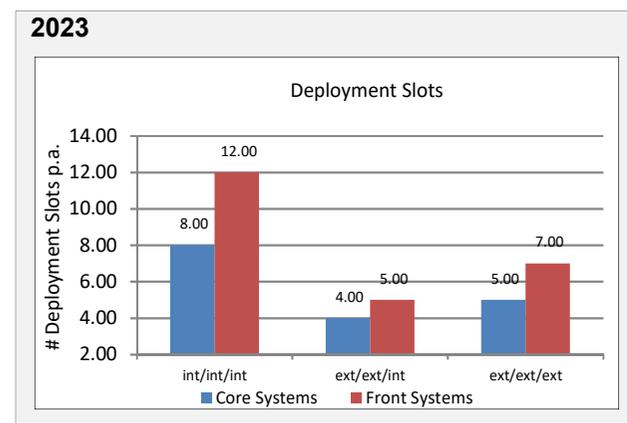
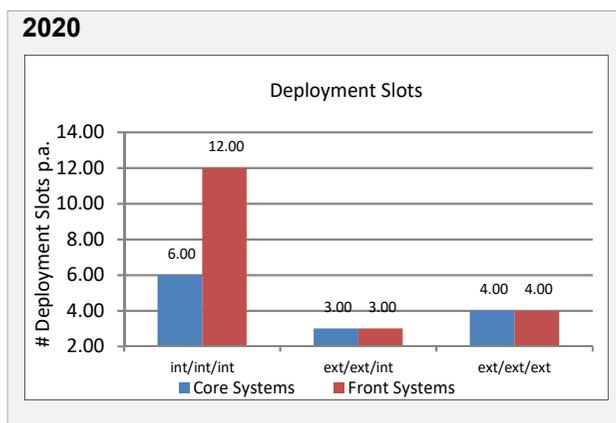
Agility and Time to Market Observations in Relation to the Sourcing Model



The majority of banks with purely internal IT provisioning are planning on shortening the development processes to 2–3 months.

Banks with internal application development and external operations are intending to shorten this to 2–7 months.

Banks with entirely outsourced IT have a wide range of ambitions, with the majority aiming to reduce their time to market to 4–12 months.



Most of the banks with internal IT have already reached their front system agility targets and the focus is therefore more on the core banking system.

Among banks with other sourcing models, the number of releases for front systems will be increased to differing extents.

Thank you.

