

KOF Konjunkturforschungsstelle

KOF Banking Survey Empirical Applications

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Contents

| | | |
|----------|---|-----------|
| 1 | Introduction | 2 |
| 2 | Correlation Analysis Overview | 4 |
| 3 | Detailed Correlation Analysis | 10 |
| 3.1 | Analysis on Quarterly Frequency | 10 |
| 3.1.1 | GDP | 10 |
| 3.1.2 | Banking Employment | 12 |
| 3.1.3 | Banking Gross Value Added | 13 |
| 3.1.4 | Credit Volume | 15 |
| 3.1.5 | Interest Rates, Exchange Rates, and Bond Yields | 17 |
| 3.1.6 | Monetary Aggregates | 21 |
| 3.2 | Analysis on Monthly Frequency | 22 |
| 3.2.1 | Interest Rates, Exchange Rates, and Bond Yields | 22 |

1 Introduction

KOF business tendency surveys provide a wide range of indicators which reflect the economic situation and can therefore be applied for business cycle monitoring and analysis. The early availability of the survey data (compared to official statistics) is one of its advantages. This document aims to illustrate few of the possible applications of KOF survey data. For this purpose, we document some of its characteristics, for example correlations between the survey variables and macroeconomic and financial variables, such as GDP and currency exchange rates. The questionnaires have questions about the past developments, current situation as well as future plans (expectations). In Tables 1 and 2 the start period of each question and its reference period are documented.

Table 1: Monthly Survey Questions

| Question | Start Date | Type |
|--|-------------------|-------------|
| business situation, assessment | Jul 2010 | Current |
| business situation, change past 3 months | Jul 2010 | Past |
| business situation, expected change next 6 months | Jul 2010 | Future |
| demand, change past 3 months | Jul 2010 | Past |
| demand, expected change next 3 months | Jul 2010 | Future |
| number of employees, assessment | Jul 2010 | Current |
| number of employees, change past 3 months | Jul 2010 | Past |
| number of employees, expected change next 3 months | Jul 2010 | Future |
| prices, expected change next 3 months | Jul 2010 | Future |

¹ This table shows all monthly survey questions. The start date in column 2 indicates when the question has been sent out for the first time. The type in column 3 refers to whether the question is regarding the past, present or future.

Table 2: Quarterly Survey Questions

| Question | Start Date | Type |
|--|------------|---------|
| competitive position on domestic market, change past 3 months | 2010 Q3 | Past |
| competitive position, change past 3 months | 2010 Q3 | Past |
| credit rating domestic clients, change past 3 months | 2000 Q4 | Past |
| credit rating foreign clients, change past 3 months | 2000 Q4 | Past |
| loans to domestic clients, expected change next 3 months | 2000 Q4 | Future |
| loans to foreign clients, expected change next 3 months | 2000 Q4 | Future |
| no obstacles | 2010 Q3 | Current |
| obstacle financial constraints | 2010 Q3 | Current |
| obstacle insufficient demand | 2010 Q3 | Current |
| obstacle other factors | 2010 Q3 | Current |
| obstacle shortage of labour | 2010 Q3 | Current |
| obstacle shortage of space and/or equipment | 2010 Q3 | Current |
| operating expenses, change past 3 months | 2010 Q3 | Past |
| operating expenses, expected change next 3 months | 2010 Q3 | Future |
| operating income, change past 3 months | 2010 Q3 | Past |
| operating income, expected change next 3 months | 2010 Q3 | Future |
| opportunities of refinancing at customer funds, change past 3 months | 2000 Q4 | Past |
| opportunities of refinancing at other funds, change past 3 months | 2000 Q4 | Past |
| profit situation, change past 3 months | 2010 Q3 | Past |
| profit situation, expected change next 3 months | 2010 Q3 | Future |
| technical capacities, assessment | 2010 Q3 | Current |
| volume of assets under management, change past 3 months | 2010 Q3 | Past |
| volume of authorized loans, change past 3 months | 2010 Q3 | Past |
| volume of security transactions for clients, change past 3 months | 2010 Q3 | Past |

¹ This table shows all the quarterly survey questions. The start date in column 2 indicates when the question has been sent out for the first time. The type in column 3 refers to whether the question is regarding the past, present or future.

Table 3: Macroeconomic Variables

| Key | Description | Frequency | Source |
|-------------------|---|-----------|--------|
| chf.eur.ma.yoy | CHF EUR exchange rate monthly average year-on-year difference | Monthly | SNB |
| chf.usd.ma.yoy | CHF USD exchange rate monthly average year-on-year difference | Monthly | SNB |
| liborCHF1M | London Libor CHR rate 1-month year-on-year difference | Monthly | SNB |
| liborCHF3M | London Libor CHR rate 3-month year-on-year difference | Monthly | SNB |
| liborCHF6M | London Libor CHR rate 6-month year-on-year difference | Monthly | SNB |
| saron.yoy | Saron CHF overnight rate year-on-year difference | Monthly | SNB |
| bondYield.1Y.yoy | Swiss zero bond yield 1-year year-on-year difference | Monthly | SNB |
| bondYield.5Y.yoy | Swiss zero bond yield 5-year year-on-year difference | Monthly | SNB |
| baDefl.qoq | Bank deflator quarter-on-quarter | Quarterly | SECO |
| baDefl.yoy | Bank deflator year-on-year | Quarterly | SECO |
| baEmpFT.qoq | Bank employment FT quarter-on-quarter | Quarterly | BFS |
| baEmpFT.yoy | Bank employment FT year-on-year | Quarterly | BFS |
| baValadd.nom.qoq | Bank nominal gross value added quarter-on-quarter | Quarterly | SECO |
| baValadd.nom.yoy | Bank nominal gross value added year-on-year | Quarterly | SECO |
| baValadd.real.qoq | Bank real gross value added quarter-on-quarter | Quarterly | SECO |
| baValadd.real.yoy | Bank real gross value added year-on-year | Quarterly | SECO |
| credVol.abr.yoy | Credit volume by Swiss banks abroad year-on-year | Quarterly | SNB |
| credVol.dom.yoy | Credit volume by Swiss banks domestic year-on-year | Quarterly | SNB |
| credVol.tot.yoy | Credit volume by Swiss banks total year-on-year | Quarterly | SNB |
| monagg.yoy | Monetary aggregate M3 year-on-year | Quarterly | SNB |
| gdp.nom.qoq | Nominal GDP quarter-on-quarter | Quarterly | SECO |
| gdp.nom.yoy | Nominal GDP year-on-year | Quarterly | SECO |
| gdp.real.qoq | Real GDP quarter-on-quarter | Quarterly | SECO |
| gdp.real.yoy | Real GDP year-on-year | Quarterly | SECO |

¹ This table shows all the macroeconomic and financial variables used to measure the correlations with the survey questions. The frequency of the variables are listed in column 3. The source of the variables is given in column 4.

2 Correlation Analysis Overview

To examine if the survey variables are rather forward-looking or contemporaneous indicators, the cross-correlations at different lags are documented. When calculating the correlations for the survey variables referring to past, one should keep in mind that these should be actually shifted by one period back (i.e., lagged). This is because the firms are asked for example early January how the change in production in the previous month (i.e., December) was compared to the month or year before. Therefore, the value of January is actually indicating the development in December and should be compared to the other macroeconomic indicators in that month.

The following tables show the cross-correlations of the quarterly frequency and aggregated monthly (average) survey variables with various macroeconomic and financial variables (see Table 3) for the last 10 years. In Table 4 we present for each survey variable the external variable with the highest (absolute) correlation and at which lag. If the highest correlation is found for negative values (leads), this means that the survey variable in question is leading the macroeconomic variable. In Figures 1 - 5 few example plots are presented.

Table 4: Highest Correlations Overall

| Question | Macro Series | Correlation | Lag/Lead |
|--|-------------------|-------------|----------|
| business situation, assessment | credVol_dom.yoy | -0.70 | -2 |
| business situation, change past 3 months | baEmpFT.yoy | -0.83 | 3 |
| business situation, expected change next 6 months | chf.usd.ma.yoy | -0.76 | -2 |
| competitive position on domestic market, change past 3 months | chf.eur.ma.yoy | 0.55 | 3 |
| competitive position, change past 3 months | gdp.real.yoy | 0.64 | -2 |
| credit rating domestic clients, change past 3 months | saron.yoy | 0.80 | 1 |
| credit rating foreign clients, change past 3 months | liborCHF6M | 0.73 | -1 |
| demand, change past 3 months | credVol_dom.yoy | -0.75 | -2 |
| demand, expected change next 3 months | monagg.yoy | -0.71 | -1 |
| loans to domestic clients, expected change next 3 months | baEmpFT.yoy | -0.60 | 3 |
| loans to foreign clients, expected change next 3 months | baDefl.qoq | 0.66 | -3 |
| no obstacles | baEmpFT.yoy | 0.75 | -3 |
| number of employees, assessment | gdp.real.yoy | -0.68 | 2 |
| number of employees, change past 3 months | credVol_dom.yoy | -0.67 | 1 |
| number of employees, expected change next 3 months | gdp.real.yoy | 0.72 | 0 |
| obstacle financial constraints | monagg.yoy | -0.90 | -2 |
| obstacle insufficient demand | baValadd.real.yoy | 0.71 | -3 |
| obstacle other factors | gdp.nom.yoy | -0.74 | 2 |
| obstacle shortage of labour | baEmpFT.yoy | -0.63 | 2 |
| obstacle shortage of space and/or equipment | monagg.yoy | -0.58 | 0 |
| operating expenses, change past 3 months | baDefl.qoq | 0.71 | -2 |
| operating expenses, expected change next 3 months | baDefl.qoq | 0.56 | -2 |
| operating income, change past 3 months | monagg.yoy | -0.72 | -3 |
| operating income, expected change next 3 months | baDefl.qoq | 0.59 | -3 |
| opportunities of refinancing at customer funds, change past 3 months | gdp.real.yoy | -0.58 | 0 |
| opportunities of refinancing at other funds, change past 3 months | baValadd.real.qoq | 0.59 | 1 |
| prices, expected change next 3 months | credVol_tot.yoy | 0.60 | 3 |
| profit situation, change past 3 months | baEmpFT.yoy | -0.68 | 3 |
| profit situation, expected change next 3 months | baDefl.qoq | 0.60 | -3 |
| technical capacities, assessment | baDefl.qoq | -0.65 | -2 |
| volume of assets under management, change past 3 months | credVol.abr.yoy | 0.73 | 3 |
| volume of authorized loans, change past 3 months | liborCHF3M | 0.52 | 1 |
| volume of security transactions for clients, change past 3 months | monagg.yoy | -0.76 | -3 |

¹ This table shows the highest absolute correlation for each survey question over all macroeconomic variables and lags from -3 to +3. The (Pearson) correlation is given in column 3. Column 4 indicates the lag where for a positive number, the survey question has been lagged, for a negative number, the survey question has been leaded.



Figure 1: Negative Correlation: Expected Business Situation and CHF USD Exchange Rate, lead/lag = -2

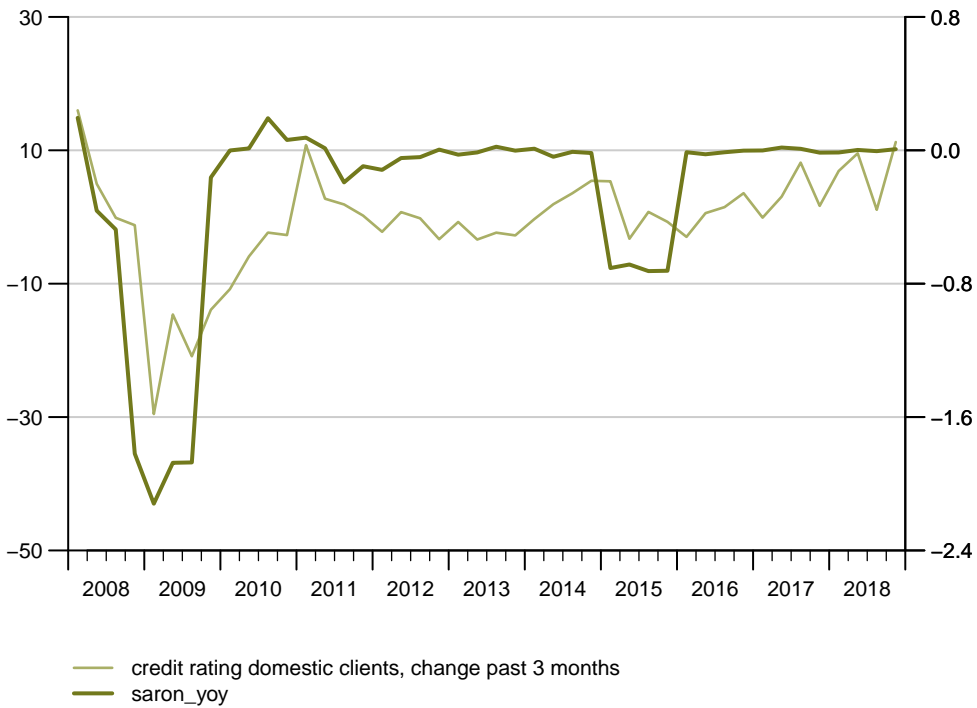


Figure 2: Positive Correlation: Credit Rating Domestic Clients and Saron Rate, lead/lag = 1

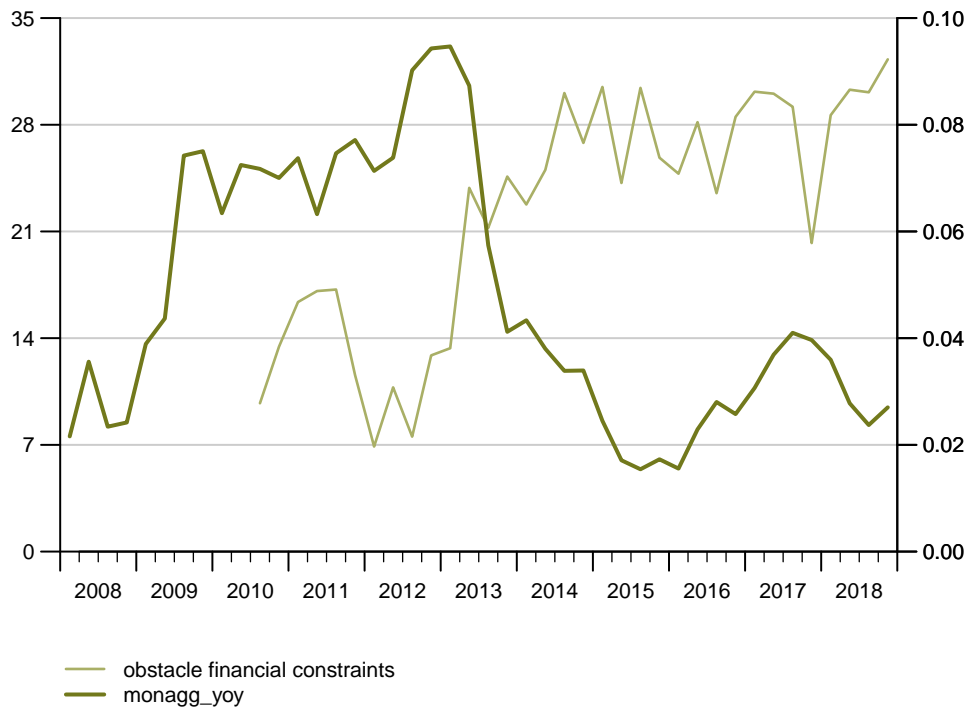


Figure 3: Negative Correlation: Obstacle Financial Constraints and Monetary Aggregates, lead/lag = -2

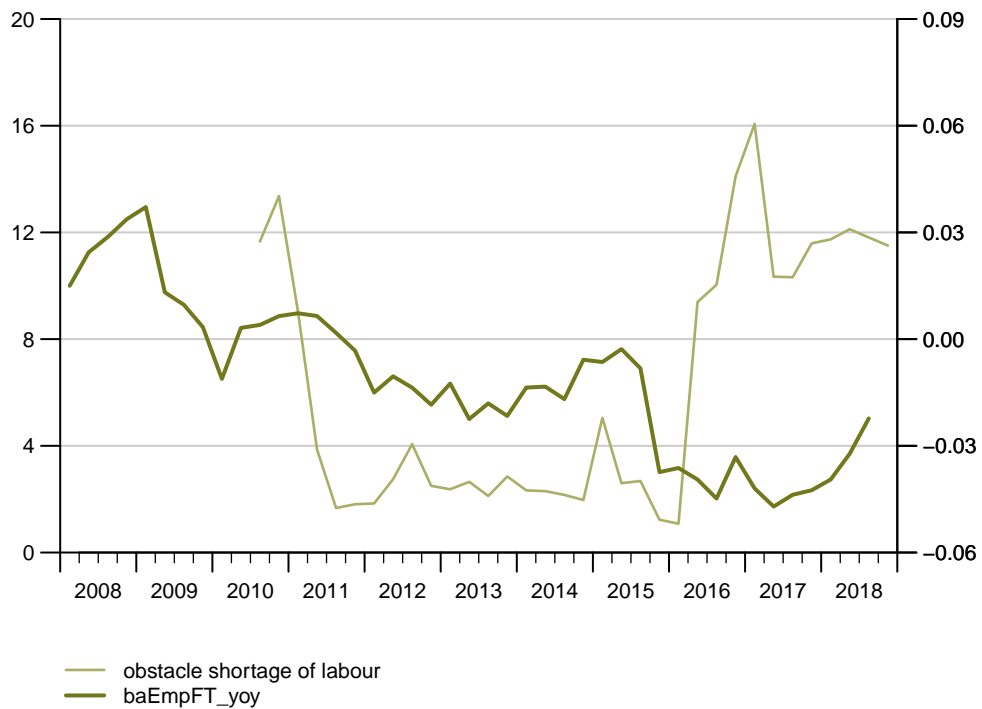


Figure 4: Negative Correlation: Obstacle Shortage Labor and Banking Employment, lead/lag = 2

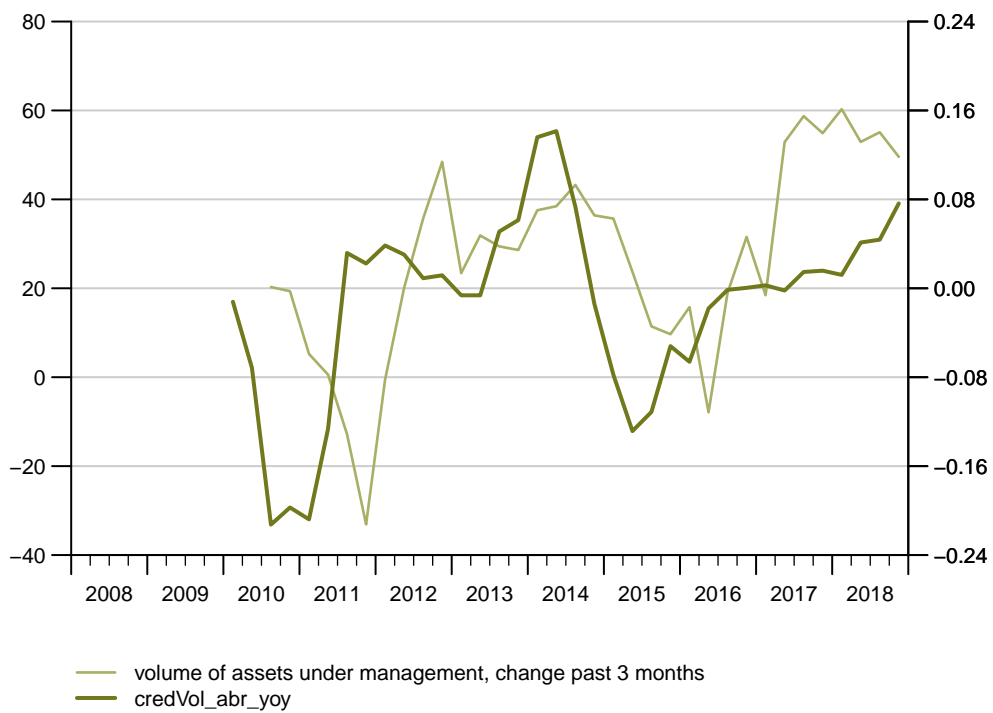


Figure 5: Positive Correlation: Volume of Assets under Management and Credit Volume Abroad, lead/lag = 3

Table 5: Highest Contemporaneous Correlations

| Question | Macro Series | Correlation |
|--|-------------------|-------------|
| business situation, assessment | credVol.dom.yoy | -0.58 |
| business situation, change past 3 months | bondYield.5Y.yoy | 0.55 |
| business situation, expected change next 6 months | gdp.nom.yoy | 0.68 |
| competitive position on domestic market, change past 3 months | monagg.yoy | -0.38 |
| competitive position, change past 3 months | bondYield.5Y.yoy | 0.45 |
| credit rating domestic clients, change past 3 months | liborCHF6M | 0.79 |
| credit rating foreign clients, change past 3 months | saron.yoy | 0.69 |
| demand, change past 3 months | monagg.yoy | -0.52 |
| demand, expected change next 3 months | monagg.yoy | -0.62 |
| loans to domestic clients, expected change next 3 months | monagg.yoy | -0.52 |
| loans to foreign clients, expected change next 3 months | bondYield.5Y.yoy | 0.54 |
| no obstacles | monagg.yoy | 0.66 |
| number of employees, assessment | chf.usd.ma.yoy | 0.48 |
| number of employees, change past 3 months | credVol.dom.yoy | -0.66 |
| number of employees, expected change next 3 months | gdp.real.yoy | 0.72 |
| obstacle financial constraints | monagg.yoy | -0.82 |
| obstacle insufficient demand | liborCHF6M | 0.48 |
| obstacle other factors | baEmpFT.yoy | -0.66 |
| obstacle shortage of labour | credVol.dom.yoy | -0.53 |
| obstacle shortage of space and/or equipment | monagg.yoy | -0.58 |
| operating expenses, change past 3 months | credVol.dom.yoy | -0.53 |
| operating expenses, expected change next 3 months | bondYield.1Y.yoy | 0.33 |
| operating income, change past 3 months | monagg.yoy | -0.55 |
| operating income, expected change next 3 months | credVol.dom.yoy | -0.55 |
| opportunities of refinancing at customer funds, change past 3 months | gdp.real.yoy | -0.58 |
| opportunities of refinancing at other funds, change past 3 months | baValadd.real.yoy | 0.44 |
| prices, expected change next 3 months | saron.yoy | -0.33 |
| profit situation, change past 3 months | monagg.yoy | -0.58 |
| profit situation, expected change next 3 months | gdp.real.yoy | 0.55 |
| technical capacities, assessment | baEmpFT.yoy | 0.56 |
| volume of assets under management, change past 3 months | baValadd.nom.yoy | 0.52 |
| volume of authorized loans, change past 3 months | baDefl.qoq | 0.31 |
| volume of security transactions for clients, change past 3 months | bondYield.5Y.yoy | 0.50 |

¹ This table shows the highest absolute correlation for each survey question over all macroeconomic variables at lag 0 (i.e. the survey questions has not been lagged or leaded). The (Pearson) correlation is given in column 3.

Table 6: Highest Correlations at Lead (-1)

| Question | Macro Series | Correlation |
|--|------------------|-------------|
| business situation, assessment | credVol.dom.yoy | -0.64 |
| business situation, change past 3 months | bondYield.5Y.yoy | 0.61 |
| business situation, expected change next 6 months | chf.usd.ma.yoy | -0.69 |
| competitive position on domestic market, change past 3 months | monagg.yoy | -0.49 |
| competitive position, change past 3 months | monagg.yoy | -0.49 |
| credit rating domestic clients, change past 3 months | liborCHF6M | 0.61 |
| credit rating foreign clients, change past 3 months | liborCHF6M | 0.73 |
| demand, change past 3 months | credVol.dom.yoy | -0.60 |
| demand, expected change next 3 months | monagg.yoy | -0.71 |
| loans to domestic clients, expected change next 3 months | monagg.yoy | -0.52 |
| loans to foreign clients, expected change next 3 months | bondYield.5Y.yoy | 0.50 |
| no obstacles | baEmpFT.yoy | 0.67 |
| number of employees, assessment | chf.usd.ma.yoy | 0.65 |
| number of employees, change past 3 months | credVol.dom.yoy | -0.58 |
| number of employees, expected change next 3 months | gdp.real.yoy | 0.58 |
| obstacle financial constraints | monagg.yoy | -0.86 |
| obstacle insufficient demand | credVol.dom.yoy | 0.53 |
| obstacle other factors | baEmpFT.yoy | -0.68 |
| obstacle shortage of labour | bondYield.5Y.yoy | 0.52 |
| obstacle shortage of space and/or equipment | monagg.yoy | -0.57 |
| operating expenses, change past 3 months | credVol.dom.yoy | -0.54 |
| operating expenses, expected change next 3 months | baDefl.qoq | 0.32 |
| operating income, change past 3 months | monagg.yoy | -0.58 |
| operating income, expected change next 3 months | chf.usd.ma.yoy | -0.50 |
| opportunities of refinancing at customer funds, change past 3 months | credVol.dom.yoy | 0.54 |
| opportunities of refinancing at other funds, change past 3 months | baDefl.yoy | -0.58 |
| prices, expected change next 3 months | baValadd.nom.qoq | -0.39 |
| profit situation, change past 3 months | monagg.yoy | -0.63 |
| profit situation, expected change next 3 months | chf.usd.ma.yoy | -0.53 |
| technical capacities, assessment | monagg.yoy | 0.51 |
| volume of assets under management, change past 3 months | bondYield.5Y.yoy | 0.51 |
| volume of authorized loans, change past 3 months | baValadd.nom.qoq | 0.41 |
| volume of security transactions for clients, change past 3 months | gdp.real.yoy | 0.54 |

¹ This table shows the highest absolute correlation for each survey question over all macroeconomic variables at lag -1 (i.e. the survey questions has been leaded by 1). The (Pearson) correlation is given in column 3.

3 Detailed Correlation Analysis

3.1 Analysis on Quarterly Frequency

3.1.1 GDP

Table 7: Cross-Correlations with Real GDP Quarter-on-Quarter

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------|-------------|--------------|--------------|--------------|
| business situation, assessment | 0.14 | 0.21 | 0.23 | 0.43 | 0.24 | 0.22 | 0.06 |
| business situation, change past 3 months | 0.26 | 0.37 | 0.25 | 0.38 | 0.19 | 0.07 | 0.07 |
| business situation, expected change next 6 months | -0.13 | -0.12 | 0.19 | 0.40 | 0.33 | 0.37 | 0.32 |
| competitive position on domestic market, change past 3 months | 0.06 | 0.48 | 0.22 | 0.27 | 0.08 | -0.16 | 0.15 |
| competitive position, change past 3 months | -0.03 | 0.50 | 0.43 | 0.43 | 0.18 | -0.01 | 0.02 |
| credit rating domestic clients, change past 3 months | -0.38 | -0.35 | -0.05 | 0.33 | 0.62 | 0.49 | 0.46 |
| credit rating foreign clients, change past 3 months | -0.22 | -0.11 | 0.26 | 0.57 | 0.65 | 0.35 | 0.11 |
| demand, change past 3 months | 0.03 | 0.14 | 0.13 | 0.34 | 0.12 | 0.14 | 0.22 |
| demand, expected change next 3 months | 0.06 | -0.04 | 0.16 | 0.46 | 0.42 | 0.30 | 0.14 |
| loans to domestic clients, expected change next 3 months | -0.23 | -0.21 | -0.09 | 0.28 | 0.37 | 0.35 | 0.21 |
| loans to foreign clients, expected change next 3 months | -0.22 | 0.09 | 0.15 | 0.28 | 0.30 | 0.26 | 0.05 |
| no obstacles | -0.06 | -0.06 | 0.07 | 0.16 | 0.24 | 0.23 | 0.13 |
| number of employees, assessment | 0.30 | 0.18 | -0.02 | -0.04 | -0.19 | -0.28 | -0.58 |
| number of employees, change past 3 months | -0.24 | -0.00 | 0.02 | 0.18 | 0.29 | 0.33 | 0.06 |
| number of employees, expected change next 3 months | -0.10 | -0.03 | 0.12 | 0.45 | 0.42 | 0.53 | 0.13 |
| obstacle financial constraints | 0.11 | 0.07 | 0.13 | 0.14 | 0.08 | -0.03 | 0.04 |
| obstacle insufficient demand | 0.18 | -0.17 | -0.27 | -0.28 | -0.28 | -0.23 | -0.14 |
| obstacle other factors | 0.24 | 0.16 | -0.03 | -0.11 | -0.13 | -0.27 | -0.19 |
| obstacle shortage of labour | 0.20 | 0.18 | 0.20 | 0.10 | 0.14 | 0.23 | 0.16 |
| obstacle shortage of space and/or equipment | 0.06 | 0.23 | 0.03 | -0.03 | 0.27 | 0.23 | 0.07 |
| operating expenses, change past 3 months | 0.05 | 0.05 | -0.09 | 0.15 | 0.39 | 0.22 | -0.13 |
| operating expenses, expected change next 3 months | 0.04 | 0.14 | -0.28 | -0.03 | 0.40 | 0.10 | -0.03 |
| operating income, change past 3 months | 0.04 | 0.20 | 0.09 | 0.18 | 0.34 | 0.24 | -0.02 |
| operating income, expected change next 3 months | -0.10 | -0.02 | 0.17 | 0.44 | 0.29 | 0.15 | 0.07 |
| opportunities of refinancing at customer funds, change past 3 months | 0.25 | 0.26 | 0.04 | -0.23 | -0.52 | -0.48 | -0.28 |
| opportunities of refinancing at other funds, change past 3 months | 0.45 | 0.49 | 0.34 | 0.25 | 0.26 | 0.15 | -0.21 |
| prices, expected change next 3 months | -0.15 | 0.09 | -0.01 | 0.19 | -0.16 | -0.07 | 0.28 |
| profit situation, change past 3 months | 0.24 | 0.32 | 0.19 | 0.19 | 0.23 | 0.26 | 0.03 |
| profit situation, expected change next 3 months | -0.25 | -0.16 | 0.19 | 0.46 | 0.39 | 0.26 | 0.23 |
| technical capacities, assessment | -0.52 | -0.15 | -0.05 | -0.11 | -0.16 | -0.01 | 0.12 |
| volume of assets under management, change past 3 months | 0.25 | 0.41 | 0.34 | 0.35 | 0.35 | 0.09 | -0.13 |
| volume of authorized loans, change past 3 months | 0.15 | 0.15 | 0.07 | 0.01 | 0.30 | 0.17 | -0.23 |
| volume of security transactions for clients, change past 3 months | 0.13 | 0.19 | 0.24 | 0.37 | 0.39 | 0.25 | -0.03 |

Table 8: Cross-Correlations with Real GDP Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------------|--------------|--------------|--------------|--------------|
| business situation, assessment | 0.29 | 0.37 | 0.41 | 0.39 | 0.26 | 0.11 | -0.15 |
| business situation, change past 3 months | 0.46 | 0.37 | 0.23 | 0.28 | 0.11 | -0.07 | -0.25 |
| business situation, expected change next 6 months | 0.04 | 0.19 | 0.42 | 0.62 | 0.56 | 0.49 | 0.19 |
| competitive position on domestic market, change past 3 months | 0.51 | 0.43 | 0.14 | 0.12 | 0.08 | -0.08 | -0.02 |
| competitive position, change past 3 months | 0.53 | 0.64 | 0.37 | 0.22 | 0.09 | -0.02 | -0.10 |
| credit rating domestic clients, change past 3 months | -0.23 | 0.16 | 0.53 | 0.69 | 0.71 | 0.50 | 0.28 |
| credit rating foreign clients, change past 3 months | 0.17 | 0.50 | 0.70 | 0.64 | 0.37 | 0.03 | -0.13 |
| demand, change past 3 months | 0.18 | 0.19 | 0.17 | 0.37 | 0.29 | 0.14 | -0.00 |
| demand, expected change next 3 months | 0.17 | 0.38 | 0.50 | 0.60 | 0.40 | 0.18 | 0.04 |
| loans to domestic clients, expected change next 3 months | -0.17 | 0.10 | 0.35 | 0.51 | 0.40 | 0.20 | -0.04 |
| loans to foreign clients, expected change next 3 months | 0.04 | 0.28 | 0.33 | 0.34 | 0.21 | 0.10 | 0.07 |
| no obstacles | 0.02 | 0.12 | 0.25 | 0.28 | 0.37 | 0.31 | 0.08 |
| number of employees, assessment | 0.22 | 0.12 | -0.21 | -0.42 | -0.52 | -0.68 | -0.52 |
| number of employees, change past 3 months | -0.32 | 0.02 | 0.32 | 0.38 | 0.21 | 0.14 | -0.02 |
| number of employees, expected change next 3 months | 0.01 | 0.28 | 0.58 | 0.72 | 0.51 | 0.31 | -0.13 |
| obstacle financial constraints | 0.19 | 0.18 | 0.09 | 0.10 | 0.00 | 0.02 | 0.13 |
| obstacle insufficient demand | -0.23 | -0.43 | -0.44 | -0.41 | -0.45 | -0.28 | -0.01 |
| obstacle other factors | 0.14 | -0.06 | -0.24 | -0.27 | -0.42 | -0.56 | -0.25 |
| obstacle shortage of labour | 0.08 | 0.04 | 0.16 | 0.30 | 0.23 | 0.08 | -0.22 |
| obstacle shortage of space and/or equipment | 0.06 | 0.25 | 0.19 | 0.25 | 0.56 | 0.32 | -0.07 |
| operating expenses, change past 3 months | -0.16 | 0.10 | 0.24 | 0.26 | 0.20 | -0.05 | -0.20 |
| operating expenses, expected change next 3 months | -0.28 | -0.08 | -0.01 | 0.13 | 0.11 | -0.04 | -0.14 |
| operating income, change past 3 months | 0.08 | 0.22 | 0.31 | 0.32 | 0.23 | -0.01 | -0.17 |
| operating income, expected change next 3 months | 0.05 | 0.28 | 0.32 | 0.37 | 0.26 | 0.26 | 0.27 |
| opportunities of refinancing at customer funds, change past 3 months | 0.17 | -0.17 | -0.49 | -0.58 | -0.52 | -0.32 | -0.02 |
| opportunities of refinancing at other funds, change past 3 months | 0.56 | 0.47 | 0.27 | 0.07 | -0.11 | -0.27 | -0.35 |
| prices, expected change next 3 months | 0.26 | 0.17 | -0.04 | 0.19 | -0.01 | 0.16 | 0.39 |
| profit situation, change past 3 months | 0.21 | 0.26 | 0.24 | 0.29 | 0.27 | 0.11 | -0.13 |
| profit situation, expected change next 3 months | -0.05 | 0.25 | 0.43 | 0.55 | 0.40 | 0.34 | 0.30 |
| technical capacities, assessment | -0.24 | -0.06 | -0.01 | -0.02 | 0.02 | 0.21 | 0.03 |
| volume of assets under management, change past 3 months | 0.50 | 0.59 | 0.41 | 0.23 | 0.03 | -0.25 | -0.44 |
| volume of authorized loans, change past 3 months | -0.05 | 0.21 | 0.26 | 0.06 | 0.04 | -0.19 | -0.28 |
| volume of security transactions for clients, change past 3 months | 0.32 | 0.53 | 0.54 | 0.42 | 0.20 | -0.06 | -0.22 |

Table 9: Cross-Correlations with Nominal GDP Quarter-on-Quarter

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------------|-------------|--------------|--------------|--------------|
| business situation, assessment | 0.08 | 0.29 | 0.21 | 0.35 | 0.25 | 0.01 | -0.09 |
| business situation, change past 3 months | 0.19 | 0.27 | 0.20 | 0.42 | 0.24 | -0.10 | -0.13 |
| business situation, expected change next 6 months | -0.12 | -0.06 | 0.18 | 0.53 | 0.45 | 0.36 | 0.27 |
| competitive position on domestic market, change past 3 months | 0.00 | 0.20 | 0.13 | 0.11 | -0.01 | -0.28 | 0.08 |
| competitive position, change past 3 months | -0.06 | 0.39 | 0.40 | 0.29 | 0.08 | -0.12 | 0.00 |
| credit rating domestic clients, change past 3 months | -0.46 | -0.37 | -0.08 | 0.34 | 0.53 | 0.38 | 0.29 |
| credit rating foreign clients, change past 3 months | -0.32 | -0.18 | 0.21 | 0.56 | 0.54 | 0.22 | -0.12 |
| demand, change past 3 months | -0.03 | 0.12 | 0.09 | 0.36 | 0.08 | -0.11 | 0.07 |
| demand, expected change next 3 months | -0.09 | -0.10 | 0.02 | 0.41 | 0.37 | 0.13 | 0.01 |
| loans to domestic clients, expected change next 3 months | -0.24 | -0.20 | -0.09 | 0.33 | 0.33 | 0.27 | 0.10 |
| loans to foreign clients, expected change next 3 months | -0.22 | 0.04 | 0.12 | 0.25 | 0.21 | 0.13 | -0.11 |
| no obstacles | -0.02 | 0.13 | 0.19 | 0.31 | 0.46 | 0.36 | 0.37 |
| number of employees, assessment | 0.37 | 0.33 | -0.01 | -0.08 | -0.17 | -0.37 | -0.45 |
| number of employees, change past 3 months | -0.16 | 0.16 | 0.22 | 0.19 | 0.23 | 0.23 | 0.02 |
| number of employees, expected change next 3 months | -0.17 | 0.14 | 0.23 | 0.49 | 0.52 | 0.45 | 0.16 |
| obstacle financial constraints | 0.07 | -0.13 | -0.08 | -0.08 | -0.10 | -0.15 | -0.20 |
| obstacle insufficient demand | 0.24 | -0.10 | -0.18 | -0.21 | -0.26 | -0.13 | -0.05 |
| obstacle other factors | 0.21 | -0.03 | -0.16 | -0.18 | -0.34 | -0.44 | -0.45 |
| obstacle shortage of labour | 0.27 | 0.21 | 0.28 | 0.24 | 0.14 | 0.19 | 0.07 |
| obstacle shortage of space and/or equipment | -0.00 | 0.05 | -0.15 | -0.09 | 0.25 | 0.18 | 0.01 |
| operating expenses, change past 3 months | 0.10 | 0.15 | -0.06 | 0.13 | 0.26 | 0.02 | -0.29 |
| operating expenses, expected change next 3 months | 0.11 | 0.14 | -0.17 | 0.03 | 0.42 | -0.00 | -0.30 |
| operating income, change past 3 months | -0.01 | 0.05 | -0.01 | 0.21 | 0.30 | 0.03 | -0.18 |
| operating income, expected change next 3 months | 0.01 | 0.02 | 0.14 | 0.34 | 0.22 | 0.12 | 0.05 |
| opportunities of refinancing at customer funds, change past 3 months | 0.33 | 0.30 | 0.09 | -0.20 | -0.46 | -0.39 | -0.11 |
| opportunities of refinancing at other funds, change past 3 months | 0.37 | 0.40 | 0.26 | 0.19 | 0.23 | 0.08 | -0.29 |
| prices, expected change next 3 months | -0.25 | -0.03 | -0.17 | 0.09 | -0.21 | 0.00 | 0.24 |
| profit situation, change past 3 months | 0.20 | 0.23 | 0.09 | 0.19 | 0.23 | 0.07 | -0.11 |
| profit situation, expected change next 3 months | -0.20 | -0.13 | 0.18 | 0.42 | 0.32 | 0.23 | 0.13 |
| technical capacities, assessment | -0.56 | -0.08 | 0.15 | -0.07 | -0.11 | 0.12 | 0.26 |
| volume of assets under management, change past 3 months | 0.16 | 0.40 | 0.35 | 0.31 | 0.31 | -0.07 | -0.32 |
| volume of authorized loans, change past 3 months | 0.29 | 0.27 | 0.23 | -0.02 | 0.14 | 0.07 | -0.17 |
| volume of security transactions for clients, change past 3 months | 0.01 | 0.15 | 0.23 | 0.28 | 0.27 | 0.10 | -0.09 |

Table 10: Cross-Correlations with Nominal GDP Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| business situation, assessment | 0.13 | 0.29 | 0.24 | 0.18 | 0.11 | -0.13 | -0.30 |
| business situation, change past 3 months | 0.27 | 0.23 | 0.14 | 0.17 | -0.05 | -0.31 | -0.44 |
| business situation, expected change next 6 months | 0.13 | 0.31 | 0.47 | 0.68 | 0.52 | 0.37 | 0.16 |
| competitive position on domestic market, change past 3 months | 0.15 | 0.10 | -0.02 | -0.05 | -0.03 | -0.16 | -0.11 |
| competitive position, change past 3 months | 0.21 | 0.34 | 0.19 | 0.06 | 0.01 | -0.05 | -0.15 |
| credit rating domestic clients, change past 3 months | -0.33 | 0.14 | 0.50 | 0.58 | 0.49 | 0.20 | -0.05 |
| credit rating foreign clients, change past 3 months | 0.05 | 0.41 | 0.58 | 0.45 | 0.10 | -0.29 | -0.46 |
| demand, change past 3 months | 0.01 | 0.07 | -0.01 | 0.18 | 0.06 | -0.12 | -0.14 |
| demand, expected change next 3 months | -0.07 | 0.19 | 0.25 | 0.43 | 0.22 | -0.04 | -0.13 |
| loans to domestic clients, expected change next 3 months | -0.18 | 0.14 | 0.37 | 0.50 | 0.30 | 0.10 | -0.18 |
| loans to foreign clients, expected change next 3 months | -0.05 | 0.21 | 0.25 | 0.22 | 0.00 | -0.15 | -0.20 |
| no obstacles | 0.18 | 0.37 | 0.45 | 0.51 | 0.59 | 0.51 | 0.35 |
| number of employees, assessment | 0.32 | 0.20 | -0.29 | -0.41 | -0.44 | -0.57 | -0.37 |
| number of employees, change past 3 months | -0.13 | 0.10 | 0.30 | 0.31 | 0.11 | 0.08 | 0.01 |
| number of employees, expected change next 3 months | 0.09 | 0.42 | 0.55 | 0.68 | 0.46 | 0.26 | -0.04 |
| obstacle financial constraints | -0.15 | -0.20 | -0.18 | -0.15 | -0.21 | -0.21 | -0.23 |
| obstacle insufficient demand | -0.08 | -0.27 | -0.26 | -0.24 | -0.32 | -0.07 | 0.12 |
| obstacle other factors | -0.04 | -0.33 | -0.47 | -0.49 | -0.61 | -0.74 | -0.51 |
| obstacle shortage of labour | 0.23 | 0.15 | 0.24 | 0.28 | 0.12 | -0.01 | -0.26 |
| obstacle shortage of space and/or equipment | -0.13 | 0.10 | 0.11 | 0.17 | 0.41 | 0.13 | -0.17 |
| operating expenses, change past 3 months | -0.13 | 0.02 | 0.09 | 0.06 | -0.02 | -0.20 | -0.34 |
| operating expenses, expected change next 3 months | -0.21 | -0.11 | 0.05 | 0.02 | -0.02 | -0.20 | -0.28 |
| operating income, change past 3 months | -0.07 | -0.04 | 0.12 | 0.18 | 0.03 | -0.24 | -0.36 |
| operating income, expected change next 3 months | -0.06 | 0.14 | 0.21 | 0.29 | 0.21 | 0.18 | 0.13 |
| opportunities of refinancing at customer funds, change past 3 months | 0.27 | -0.10 | -0.40 | -0.45 | -0.33 | -0.07 | 0.30 |
| opportunities of refinancing at other funds, change past 3 months | 0.45 | 0.31 | 0.08 | -0.13 | -0.30 | -0.41 | -0.40 |
| prices, expected change next 3 months | 0.12 | -0.00 | -0.13 | 0.17 | -0.05 | 0.14 | 0.25 |
| profit situation, change past 3 months | -0.02 | 0.05 | 0.07 | 0.15 | 0.09 | -0.13 | -0.33 |
| profit situation, expected change next 3 months | -0.11 | 0.13 | 0.31 | 0.44 | 0.32 | 0.26 | 0.20 |
| technical capacities, assessment | 0.03 | 0.17 | 0.20 | 0.07 | 0.09 | 0.39 | 0.25 |
| volume of assets under management, change past 3 months | 0.31 | 0.43 | 0.28 | 0.05 | -0.12 | -0.37 | -0.52 |
| volume of authorized loans, change past 3 months | 0.03 | 0.20 | 0.19 | -0.05 | 0.01 | -0.08 | -0.15 |
| volume of security transactions for clients, change past 3 months | 0.10 | 0.31 | 0.35 | 0.23 | 0.04 | -0.17 | -0.34 |

3.1.2 Banking Employment

Table 11: Cross-Correlations with Banking Employment Quarter-on-Quarter

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------|-------------|--------------|--------------|--------------|--------------|
| business situation, assessment | -0.11 | -0.24 | -0.12 | -0.15 | -0.27 | -0.15 | -0.34 |
| business situation, change past 3 months | -0.12 | -0.26 | -0.22 | -0.33 | -0.32 | -0.23 | -0.52 |
| business situation, expected change next 6 months | 0.18 | 0.17 | 0.20 | 0.13 | 0.15 | 0.06 | -0.00 |
| competitive position on domestic market, change past 3 months | 0.05 | 0.14 | -0.24 | -0.25 | -0.15 | -0.19 | -0.06 |
| competitive position, change past 3 months | 0.14 | 0.12 | -0.18 | -0.34 | -0.34 | -0.20 | -0.19 |
| credit rating domestic clients, change past 3 months | -0.20 | -0.11 | 0.08 | -0.15 | -0.20 | -0.38 | -0.49 |
| credit rating foreign clients, change past 3 months | -0.21 | -0.18 | -0.19 | -0.27 | -0.30 | -0.60 | -0.51 |
| demand, change past 3 months | -0.16 | -0.16 | -0.17 | -0.26 | -0.07 | -0.04 | -0.38 |
| demand, expected change next 3 months | -0.09 | -0.12 | 0.03 | -0.14 | -0.19 | -0.21 | -0.35 |
| loans to domestic clients, expected change next 3 months | -0.09 | 0.00 | 0.15 | -0.01 | -0.15 | -0.23 | -0.51 |
| loans to foreign clients, expected change next 3 months | -0.29 | -0.28 | -0.35 | -0.23 | -0.42 | -0.51 | -0.47 |
| no obstacles | 0.55 | 0.40 | 0.50 | 0.44 | 0.37 | 0.47 | 0.35 |
| number of employees, assessment | -0.03 | -0.03 | -0.06 | -0.10 | -0.31 | -0.13 | -0.21 |
| number of employees, change past 3 months | -0.07 | -0.19 | -0.10 | 0.09 | -0.19 | -0.28 | -0.21 |
| number of employees, expected change next 3 months | 0.28 | 0.03 | 0.21 | 0.23 | 0.01 | -0.01 | -0.14 |
| obstacle financial constraints | -0.37 | -0.33 | -0.37 | -0.34 | -0.38 | -0.38 | -0.36 |
| obstacle insufficient demand | 0.02 | -0.06 | 0.07 | 0.02 | -0.03 | -0.06 | -0.04 |
| obstacle other factors | -0.55 | -0.34 | -0.52 | -0.45 | -0.33 | -0.56 | -0.48 |
| obstacle shortage of labour | -0.14 | -0.15 | -0.22 | -0.18 | -0.12 | -0.37 | -0.38 |
| obstacle shortage of space and/or equipment | -0.23 | -0.04 | -0.15 | -0.17 | -0.06 | -0.03 | -0.19 |
| operating expenses, change past 3 months | -0.48 | -0.23 | -0.09 | -0.10 | -0.16 | -0.41 | -0.38 |
| operating expenses, expected change next 3 months | -0.42 | -0.30 | 0.01 | -0.00 | -0.25 | -0.24 | -0.32 |
| operating income, change past 3 months | -0.29 | -0.25 | -0.17 | -0.16 | -0.22 | -0.26 | -0.32 |
| operating income, expected change next 3 months | -0.07 | 0.01 | -0.09 | -0.15 | -0.22 | -0.23 | -0.18 |
| opportunities of refinancing at customer funds, change past 3 months | 0.33 | 0.36 | 0.09 | 0.22 | 0.25 | 0.27 | 0.39 |
| opportunities of refinancing at other funds, change past 3 months | -0.14 | -0.20 | -0.14 | -0.18 | -0.30 | -0.21 | -0.15 |
| prices, expected change next 3 months | 0.19 | 0.03 | 0.01 | 0.11 | 0.21 | 0.08 | 0.27 |
| profit situation, change past 3 months | -0.27 | -0.39 | -0.20 | -0.28 | -0.27 | -0.13 | -0.46 |
| profit situation, expected change next 3 months | 0.08 | 0.14 | 0.02 | 0.01 | -0.11 | -0.22 | -0.12 |
| technical capacities, assessment | 0.40 | 0.35 | 0.29 | 0.31 | 0.35 | 0.41 | 0.46 |
| volume of assets under management, change past 3 months | 0.02 | -0.09 | 0.05 | -0.12 | -0.30 | -0.23 | -0.50 |
| volume of authorized loans, change past 3 months | -0.19 | 0.15 | 0.08 | 0.13 | -0.08 | -0.23 | -0.26 |
| volume of security transactions for clients, change past 3 months | -0.10 | -0.08 | -0.01 | -0.03 | -0.14 | -0.18 | -0.38 |

Table 12: Cross-Correlations with Banking Employment Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------|--------------|--------------|--------------|--------------|
| business situation, assessment | -0.17 | -0.23 | -0.22 | -0.33 | -0.41 | -0.47 | -0.63 |
| business situation, change past 3 months | -0.32 | -0.38 | -0.38 | -0.50 | -0.58 | -0.70 | -0.83 |
| business situation, expected change next 6 months | 0.31 | 0.31 | 0.25 | 0.12 | 0.06 | -0.09 | -0.21 |
| competitive position on domestic market, change past 3 months | -0.09 | -0.17 | -0.28 | -0.23 | -0.28 | -0.39 | -0.41 |
| competitive position, change past 3 months | -0.05 | -0.25 | -0.36 | -0.38 | -0.39 | -0.48 | -0.56 |
| credit rating domestic clients, change past 3 months | -0.09 | -0.09 | -0.15 | -0.32 | -0.51 | -0.64 | -0.66 |
| credit rating foreign clients, change past 3 months | -0.26 | -0.28 | -0.41 | -0.52 | -0.62 | -0.65 | -0.53 |
| demand, change past 3 months | -0.24 | -0.17 | -0.15 | -0.27 | -0.27 | -0.44 | -0.61 |
| demand, expected change next 3 months | -0.07 | -0.10 | -0.15 | -0.32 | -0.34 | -0.41 | -0.54 |
| loans to domestic clients, expected change next 3 months | 0.07 | 0.04 | -0.03 | -0.22 | -0.39 | -0.50 | -0.60 |
| loans to foreign clients, expected change next 3 months | -0.34 | -0.39 | -0.46 | -0.50 | -0.62 | -0.64 | -0.63 |
| no obstacles | 0.75 | 0.67 | 0.67 | 0.59 | 0.54 | 0.45 | 0.35 |
| number of employees, assessment | -0.10 | -0.21 | -0.24 | -0.27 | -0.21 | -0.12 | -0.04 |
| number of employees, change past 3 months | -0.01 | -0.09 | -0.17 | -0.21 | -0.29 | -0.28 | -0.20 |
| number of employees, expected change next 3 months | 0.38 | 0.27 | 0.20 | 0.04 | -0.04 | -0.14 | -0.17 |
| obstacle financial constraints | -0.52 | -0.53 | -0.52 | -0.53 | -0.53 | -0.57 | -0.62 |
| obstacle insufficient demand | -0.00 | -0.05 | -0.04 | -0.04 | -0.01 | 0.10 | 0.24 |
| obstacle other factors | -0.71 | -0.60 | -0.68 | -0.66 | -0.65 | -0.62 | -0.51 |
| obstacle shortage of labour | -0.21 | -0.20 | -0.29 | -0.37 | -0.45 | -0.63 | -0.58 |
| obstacle shortage of space and/or equipment | -0.24 | -0.17 | -0.15 | -0.16 | -0.20 | -0.27 | -0.33 |
| operating expenses, change past 3 months | -0.27 | -0.18 | -0.26 | -0.37 | -0.46 | -0.53 | -0.41 |
| operating expenses, expected change next 3 months | -0.21 | -0.15 | -0.15 | -0.29 | -0.46 | -0.42 | -0.41 |
| operating income, change past 3 months | -0.28 | -0.24 | -0.26 | -0.35 | -0.44 | -0.51 | -0.49 |
| operating income, expected change next 3 months | -0.05 | -0.13 | -0.23 | -0.28 | -0.25 | -0.28 | -0.35 |
| opportunities of refinancing at customer funds, change past 3 months | 0.32 | 0.29 | 0.26 | 0.35 | 0.42 | 0.45 | 0.50 |
| opportunities of refinancing at other funds, change past 3 months | -0.21 | -0.26 | -0.28 | -0.33 | -0.30 | -0.18 | -0.08 |
| prices, expected change next 3 months | 0.09 | 0.10 | 0.15 | 0.24 | 0.28 | 0.26 | 0.17 |
| profit situation, change past 3 months | -0.39 | -0.37 | -0.28 | -0.41 | -0.45 | -0.55 | -0.68 |
| profit situation, expected change next 3 months | 0.17 | 0.08 | -0.06 | -0.16 | -0.20 | -0.24 | -0.30 |
| technical capacities, assessment | 0.49 | 0.45 | 0.47 | 0.56 | 0.58 | 0.61 | 0.61 |
| volume of assets under management, change past 3 months | 0.02 | -0.12 | -0.19 | -0.41 | -0.55 | -0.61 | -0.72 |
| volume of authorized loans, change past 3 months | 0.16 | 0.13 | -0.04 | -0.16 | -0.27 | -0.36 | -0.27 |
| volume of security transactions for clients, change past 3 months | 0.00 | -0.05 | -0.11 | -0.26 | -0.35 | -0.45 | -0.52 |

3.1.3 Banking Gross Value Added

Table 13: Cross-Correlations with Banking Real Gross Value Added Quarter-on-Quarter

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|-------|--------------|-------|--------------|
| business situation, assessment | -0.47 | -0.27 | -0.16 | -0.12 | 0.07 | 0.01 | -0.11 |
| business situation, change past 3 months | -0.32 | -0.06 | 0.03 | 0.14 | 0.32 | 0.12 | 0.00 |
| business situation, expected change next 6 months | -0.34 | -0.33 | -0.10 | -0.01 | 0.11 | 0.08 | -0.00 |
| competitive position on domestic market, change past 3 months | -0.20 | -0.28 | -0.20 | -0.06 | 0.10 | 0.10 | 0.28 |
| competitive position, change past 3 months | -0.32 | -0.28 | -0.05 | -0.02 | 0.08 | 0.07 | 0.28 |
| credit rating domestic clients, change past 3 months | -0.14 | -0.28 | -0.27 | -0.08 | 0.23 | 0.16 | 0.46 |
| credit rating foreign clients, change past 3 months | -0.23 | -0.28 | -0.11 | 0.10 | 0.32 | 0.38 | 0.44 |
| demand, change past 3 months | -0.46 | -0.41 | -0.21 | -0.11 | -0.06 | -0.12 | -0.08 |
| demand, expected change next 3 months | -0.55 | -0.62 | -0.43 | -0.18 | 0.09 | 0.00 | 0.09 |
| loans to domestic clients, expected change next 3 months | -0.26 | -0.37 | -0.31 | -0.18 | 0.02 | -0.01 | 0.06 |
| loans to foreign clients, expected change next 3 months | -0.21 | -0.06 | -0.09 | -0.03 | 0.14 | 0.21 | -0.02 |
| no obstacles | -0.13 | 0.10 | 0.21 | 0.03 | 0.42 | 0.29 | 0.24 |
| number of employees, assessment | 0.42 | 0.47 | 0.61 | 0.12 | 0.21 | 0.01 | -0.19 |
| number of employees, change past 3 months | -0.05 | -0.01 | 0.04 | -0.21 | -0.21 | -0.07 | -0.38 |
| number of employees, expected change next 3 months | -0.34 | -0.32 | 0.03 | -0.24 | 0.10 | 0.14 | -0.03 |
| obstacle financial constraints | -0.36 | -0.42 | -0.41 | -0.22 | -0.10 | -0.13 | 0.04 |
| obstacle insufficient demand | 0.69 | 0.55 | 0.34 | 0.31 | 0.08 | -0.09 | -0.08 |
| obstacle other factors | 0.07 | 0.03 | -0.11 | 0.10 | -0.12 | -0.03 | -0.11 |
| obstacle shortage of labour | 0.08 | 0.12 | 0.26 | 0.15 | 0.05 | -0.06 | -0.18 |
| obstacle shortage of space and/or equipment | -0.23 | -0.37 | -0.38 | -0.34 | -0.08 | -0.08 | -0.10 |
| operating expenses, change past 3 months | -0.15 | -0.03 | -0.08 | -0.31 | 0.07 | -0.16 | -0.40 |
| operating expenses, expected change next 3 months | 0.05 | 0.25 | -0.09 | 0.02 | 0.21 | 0.03 | -0.44 |
| operating income, change past 3 months | -0.44 | -0.24 | -0.29 | -0.30 | 0.27 | 0.07 | -0.09 |
| operating income, expected change next 3 months | -0.18 | -0.35 | -0.28 | -0.22 | -0.02 | -0.12 | 0.03 |
| opportunities of refinancing at customer funds, change past 3 months | 0.18 | 0.30 | 0.31 | 0.10 | 0.01 | -0.11 | -0.22 |
| opportunities of refinancing at other funds, change past 3 months | 0.08 | 0.22 | 0.22 | 0.39 | 0.59 | 0.39 | 0.09 |
| prices, expected change next 3 months | -0.35 | -0.44 | -0.30 | -0.15 | -0.12 | 0.18 | 0.28 |
| profit situation, change past 3 months | -0.37 | -0.28 | -0.29 | -0.22 | 0.22 | 0.02 | 0.01 |
| profit situation, expected change next 3 months | -0.34 | -0.42 | -0.29 | -0.19 | -0.07 | -0.08 | 0.09 |
| technical capacities, assessment | -0.05 | 0.03 | 0.31 | 0.11 | -0.30 | -0.10 | 0.02 |
| volume of assets under management, change past 3 months | -0.27 | 0.06 | 0.13 | 0.29 | 0.40 | 0.27 | 0.20 |
| volume of authorized loans, change past 3 months | 0.07 | 0.13 | 0.33 | 0.09 | 0.24 | 0.00 | -0.01 |
| volume of security transactions for clients, change past 3 months | -0.63 | -0.34 | -0.11 | -0.03 | 0.30 | 0.18 | 0.24 |

Table 14: Cross-Correlations with Banking Real Gross Value Added Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------------|-------------|-------------|--------------|--------------|
| business situation, assessment | -0.46 | -0.27 | -0.13 | -0.07 | 0.00 | -0.04 | -0.10 |
| business situation, change past 3 months | -0.14 | 0.11 | 0.21 | 0.23 | 0.18 | 0.01 | -0.13 |
| business situation, expected change next 6 months | -0.32 | -0.18 | -0.01 | 0.06 | 0.06 | 0.11 | 0.13 |
| competitive position on domestic market, change past 3 months | -0.30 | -0.18 | -0.03 | 0.17 | 0.35 | 0.37 | 0.32 |
| competitive position, change past 3 months | -0.34 | -0.17 | -0.00 | 0.15 | 0.31 | 0.35 | 0.22 |
| credit rating domestic clients, change past 3 months | -0.30 | -0.14 | 0.01 | 0.30 | 0.50 | 0.53 | 0.63 |
| credit rating foreign clients, change past 3 months | -0.20 | 0.00 | 0.23 | 0.45 | 0.51 | 0.45 | 0.32 |
| demand, change past 3 months | -0.52 | -0.43 | -0.26 | -0.15 | -0.07 | -0.06 | -0.05 |
| demand, expected change next 3 months | -0.71 | -0.50 | -0.24 | 0.00 | 0.09 | 0.12 | 0.20 |
| loans to domestic clients, expected change next 3 months | -0.45 | -0.33 | -0.19 | -0.01 | 0.11 | 0.15 | 0.13 |
| loans to foreign clients, expected change next 3 months | -0.20 | -0.05 | 0.07 | 0.11 | 0.09 | 0.04 | -0.09 |
| no obstacles | 0.07 | 0.28 | 0.35 | 0.37 | 0.55 | 0.46 | 0.31 |
| number of employees, assessment | 0.60 | 0.55 | 0.38 | 0.06 | 0.07 | -0.09 | -0.22 |
| number of employees, change past 3 months | -0.22 | -0.24 | -0.20 | -0.36 | -0.34 | -0.29 | -0.39 |
| number of employees, expected change next 3 months | -0.40 | -0.25 | -0.04 | -0.03 | 0.12 | 0.17 | 0.07 |
| obstacle financial constraints | -0.55 | -0.45 | -0.35 | -0.16 | -0.16 | -0.15 | -0.04 |
| obstacle insufficient demand | 0.71 | 0.54 | 0.29 | 0.10 | -0.13 | -0.26 | -0.21 |
| obstacle other factors | 0.02 | -0.06 | -0.05 | -0.05 | -0.19 | -0.25 | -0.24 |
| obstacle shortage of labour | 0.16 | 0.15 | 0.11 | -0.03 | -0.20 | -0.28 | -0.40 |
| obstacle shortage of space and/or equipment | -0.48 | -0.44 | -0.35 | -0.23 | -0.06 | -0.04 | -0.04 |
| operating expenses, change past 3 months | -0.33 | -0.18 | -0.22 | -0.32 | -0.23 | -0.35 | -0.38 |
| operating expenses, expected change next 3 months | 0.02 | 0.09 | 0.03 | -0.07 | -0.19 | -0.33 | -0.43 |
| operating income, change past 3 months | -0.58 | -0.29 | -0.14 | -0.01 | 0.16 | 0.01 | -0.07 |
| operating income, expected change next 3 months | -0.48 | -0.39 | -0.29 | -0.14 | -0.08 | -0.10 | -0.01 |
| opportunities of refinancing at customer funds, change past 3 months | 0.34 | 0.26 | 0.11 | -0.08 | -0.17 | -0.26 | -0.20 |
| opportunities of refinancing at other funds, change past 3 months | 0.31 | 0.47 | 0.51 | 0.44 | 0.29 | 0.11 | -0.00 |
| prices, expected change next 3 months | -0.40 | -0.33 | -0.14 | 0.08 | 0.17 | 0.33 | 0.43 |
| profit situation, change past 3 months | -0.56 | -0.33 | -0.17 | 0.01 | 0.11 | -0.05 | -0.12 |
| profit situation, expected change next 3 months | -0.55 | -0.45 | -0.31 | -0.11 | -0.04 | 0.05 | 0.18 |
| technical capacities, assessment | 0.23 | 0.13 | 0.03 | -0.12 | -0.13 | 0.16 | 0.20 |
| volume of assets under management, change past 3 months | 0.05 | 0.31 | 0.41 | 0.46 | 0.39 | 0.29 | 0.20 |
| volume of authorized loans, change past 3 months | 0.18 | 0.28 | 0.25 | 0.12 | 0.15 | 0.03 | -0.02 |
| volume of security transactions for clients, change past 3 months | -0.49 | -0.10 | 0.12 | 0.27 | 0.40 | 0.28 | 0.23 |

Table 15: Cross-Correlations with Banking Nominal Gross Value Added Quarter-on-Quarter

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| business situation, assessment | -0.26 | -0.09 | -0.05 | -0.04 | 0.18 | 0.05 | -0.05 |
| business situation, change past 3 months | -0.13 | 0.15 | 0.15 | 0.22 | 0.38 | 0.15 | 0.10 |
| business situation, expected change next 6 months | -0.15 | -0.21 | -0.13 | -0.06 | 0.09 | 0.07 | -0.03 |
| competitive position on domestic market, change past 3 months | -0.16 | -0.28 | -0.15 | -0.01 | 0.11 | 0.12 | 0.31 |
| competitive position, change past 3 months | -0.30 | -0.23 | 0.07 | 0.11 | 0.16 | 0.10 | 0.29 |
| credit rating domestic clients, change past 3 months | 0.11 | -0.02 | -0.21 | -0.06 | 0.12 | 0.07 | 0.41 |
| credit rating foreign clients, change past 3 months | 0.00 | -0.13 | -0.16 | -0.03 | 0.18 | 0.39 | 0.53 |
| demand, change past 3 months | -0.31 | -0.23 | -0.08 | 0.04 | 0.06 | -0.10 | -0.03 |
| demand, expected change next 3 months | -0.36 | -0.43 | -0.36 | -0.11 | 0.15 | 0.03 | 0.12 |
| loans to domestic clients, expected change next 3 months | -0.05 | -0.19 | -0.24 | -0.16 | 0.02 | -0.07 | 0.05 |
| loans to foreign clients, expected change next 3 months | 0.07 | 0.13 | 0.02 | -0.02 | 0.17 | 0.24 | 0.02 |
| no obstacles | -0.27 | 0.04 | 0.13 | -0.03 | 0.35 | 0.11 | 0.11 |
| number of employees, assessment | 0.24 | 0.34 | 0.53 | 0.11 | 0.31 | -0.00 | -0.15 |
| number of employees, change past 3 months | 0.11 | 0.16 | 0.17 | -0.16 | -0.14 | -0.02 | -0.30 |
| number of employees, expected change next 3 months | -0.27 | -0.23 | 0.02 | -0.26 | 0.12 | 0.09 | -0.03 |
| obstacle financial constraints | -0.16 | -0.19 | -0.23 | -0.08 | -0.04 | -0.05 | 0.10 |
| obstacle insufficient demand | 0.57 | 0.46 | 0.29 | 0.28 | 0.06 | -0.06 | -0.03 |
| obstacle other factors | 0.16 | 0.10 | 0.01 | 0.19 | -0.04 | 0.11 | 0.04 |
| obstacle shortage of labour | 0.24 | 0.22 | 0.34 | 0.25 | 0.13 | -0.01 | -0.14 |
| obstacle shortage of space and/or equipment | -0.08 | -0.28 | -0.36 | -0.34 | -0.05 | -0.06 | -0.13 |
| operating expenses, change past 3 months | 0.08 | 0.24 | 0.05 | -0.25 | 0.11 | -0.11 | -0.25 |
| operating expenses, expected change next 3 months | 0.22 | 0.46 | 0.02 | 0.03 | 0.24 | 0.12 | -0.32 |
| operating income, change past 3 months | -0.28 | -0.02 | -0.17 | -0.22 | 0.31 | 0.08 | 0.03 |
| operating income, expected change next 3 months | 0.05 | -0.13 | -0.16 | -0.13 | 0.03 | -0.05 | 0.10 |
| opportunities of refinancing at customer funds, change past 3 months | -0.01 | 0.09 | 0.17 | 0.08 | 0.12 | -0.01 | -0.15 |
| opportunities of refinancing at other funds, change past 3 months | 0.05 | 0.15 | 0.12 | 0.26 | 0.49 | 0.38 | 0.21 |
| prices, expected change next 3 months | -0.31 | -0.45 | -0.39 | -0.24 | -0.17 | 0.16 | 0.24 |
| profit situation, change past 3 months | -0.21 | -0.04 | -0.14 | -0.08 | 0.32 | 0.06 | 0.11 |
| profit situation, expected change next 3 months | -0.11 | -0.22 | -0.21 | -0.14 | -0.04 | -0.03 | 0.14 |
| technical capacities, assessment | -0.21 | -0.21 | 0.14 | -0.01 | -0.38 | -0.19 | -0.17 |
| volume of assets under management, change past 3 months | -0.16 | 0.14 | 0.13 | 0.26 | 0.40 | 0.33 | 0.29 |
| volume of authorized loans, change past 3 months | 0.03 | 0.18 | 0.41 | 0.20 | 0.28 | -0.01 | -0.04 |
| volume of security transactions for clients, change past 3 months | -0.53 | -0.17 | -0.01 | 0.04 | 0.29 | 0.11 | 0.24 |

Table 16: Cross-Correlations with Banking Nominal Gross Value Added Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------------|-------------|--------------|--------------|--------------|
| business situation, assessment | -0.33 | -0.14 | -0.02 | 0.06 | 0.12 | 0.03 | -0.01 |
| business situation, change past 3 months | 0.01 | 0.24 | 0.30 | 0.35 | 0.34 | 0.18 | 0.07 |
| business situation, expected change next 6 months | -0.30 | -0.23 | -0.08 | 0.03 | 0.02 | 0.02 | 0.05 |
| competitive position on domestic market, change past 3 months | -0.30 | -0.18 | 0.01 | 0.21 | 0.42 | 0.47 | 0.40 |
| competitive position, change past 3 months | -0.31 | -0.07 | 0.12 | 0.26 | 0.40 | 0.45 | 0.35 |
| credit rating domestic clients, change past 3 months | -0.12 | -0.08 | -0.02 | 0.28 | 0.43 | 0.48 | 0.58 |
| credit rating foreign clients, change past 3 months | -0.18 | -0.11 | 0.11 | 0.43 | 0.56 | 0.50 | 0.30 |
| demand, change past 3 months | -0.38 | -0.27 | -0.12 | -0.01 | 0.03 | -0.00 | 0.05 |
| demand, expected change next 3 months | -0.61 | -0.44 | -0.19 | 0.08 | 0.15 | 0.14 | 0.25 |
| loans to domestic clients, expected change next 3 months | -0.32 | -0.25 | -0.17 | 0.02 | 0.10 | 0.14 | 0.17 |
| loans to foreign clients, expected change next 3 months | -0.03 | 0.06 | 0.14 | 0.18 | 0.16 | 0.05 | -0.13 |
| no obstacles | -0.09 | 0.16 | 0.20 | 0.21 | 0.36 | 0.28 | 0.20 |
| number of employees, assessment | 0.52 | 0.55 | 0.40 | 0.10 | 0.14 | 0.01 | -0.05 |
| number of employees, change past 3 months | -0.09 | -0.12 | -0.08 | -0.25 | -0.25 | -0.25 | -0.36 |
| number of employees, expected change next 3 months | -0.45 | -0.28 | -0.08 | -0.03 | 0.10 | 0.11 | 0.07 |
| obstacle financial constraints | -0.31 | -0.25 | -0.20 | -0.02 | -0.04 | -0.03 | 0.06 |
| obstacle insufficient demand | 0.69 | 0.53 | 0.29 | 0.10 | -0.11 | -0.24 | -0.20 |
| obstacle other factors | 0.16 | 0.06 | 0.11 | 0.13 | 0.03 | 0.01 | -0.03 |
| obstacle shortage of labour | 0.31 | 0.28 | 0.23 | 0.09 | -0.13 | -0.23 | -0.30 |
| obstacle shortage of space and/or equipment | -0.40 | -0.40 | -0.34 | -0.23 | -0.09 | -0.09 | -0.09 |
| operating expenses, change past 3 months | -0.14 | -0.02 | -0.13 | -0.19 | -0.09 | -0.22 | -0.27 |
| operating expenses, expected change next 3 months | 0.15 | 0.20 | 0.11 | 0.04 | -0.02 | -0.20 | -0.36 |
| operating income, change past 3 months | -0.46 | -0.20 | -0.08 | 0.09 | 0.30 | 0.16 | 0.05 |
| operating income, expected change next 3 months | -0.31 | -0.26 | -0.19 | -0.01 | 0.01 | -0.07 | -0.03 |
| opportunities of refinancing at customer funds, change past 3 months | 0.16 | 0.19 | 0.14 | 0.00 | -0.08 | -0.23 | -0.18 |
| opportunities of refinancing at other funds, change past 3 months | 0.18 | 0.32 | 0.36 | 0.35 | 0.29 | 0.17 | 0.04 |
| prices, expected change next 3 months | -0.48 | -0.44 | -0.25 | 0.00 | 0.14 | 0.25 | 0.31 |
| profit situation, change past 3 months | -0.39 | -0.15 | -0.03 | 0.18 | 0.26 | 0.07 | -0.02 |
| profit situation, expected change next 3 months | -0.43 | -0.39 | -0.27 | -0.03 | 0.01 | 0.07 | 0.16 |
| technical capacities, assessment | 0.03 | -0.05 | -0.13 | -0.32 | -0.34 | -0.02 | 0.09 |
| volume of assets under management, change past 3 months | 0.02 | 0.29 | 0.42 | 0.52 | 0.53 | 0.47 | 0.38 |
| volume of authorized loans, change past 3 months | 0.23 | 0.41 | 0.36 | 0.16 | 0.13 | 0.05 | 0.06 |
| volume of security transactions for clients, change past 3 months | -0.41 | -0.01 | 0.15 | 0.28 | 0.41 | 0.33 | 0.36 |

3.1.4 Credit Volume

Table 17: Cross-Correlations with Credit Volume Abroad Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| business situation, assessment | -0.41 | -0.43 | -0.37 | -0.31 | -0.08 | 0.18 | 0.38 |
| business situation, change past 3 months | -0.07 | -0.13 | -0.07 | -0.03 | 0.11 | 0.30 | 0.41 |
| business situation, expected change next 6 months | -0.12 | -0.24 | -0.41 | -0.50 | -0.46 | -0.22 | 0.03 |
| competitive position on domestic market, change past 3 months | -0.07 | 0.13 | 0.35 | 0.36 | 0.36 | 0.29 | 0.35 |
| competitive position, change past 3 months | -0.07 | 0.02 | 0.18 | 0.21 | 0.19 | 0.14 | 0.16 |
| credit rating domestic clients, change past 3 months | 0.31 | 0.20 | 0.05 | -0.02 | -0.02 | -0.04 | 0.08 |
| credit rating foreign clients, change past 3 months | 0.04 | 0.12 | 0.13 | 0.03 | -0.12 | -0.06 | 0.04 |
| demand, change past 3 months | -0.51 | -0.56 | -0.37 | -0.21 | -0.01 | 0.22 | 0.37 |
| demand, expected change next 3 months | -0.18 | -0.13 | -0.16 | -0.14 | -0.08 | 0.09 | 0.27 |
| loans to domestic clients, expected change next 3 months | -0.16 | -0.22 | -0.16 | -0.10 | 0.00 | 0.20 | 0.15 |
| loans to foreign clients, expected change next 3 months | -0.01 | 0.00 | -0.05 | -0.11 | -0.20 | -0.14 | -0.11 |
| no obstacles | 0.07 | -0.05 | -0.13 | -0.28 | -0.25 | -0.22 | -0.19 |
| number of employees, assessment | 0.03 | 0.02 | 0.17 | 0.34 | 0.50 | 0.44 | 0.15 |
| number of employees, change past 3 months | -0.28 | -0.39 | -0.33 | -0.38 | -0.39 | -0.29 | -0.28 |
| number of employees, expected change next 3 months | -0.23 | -0.38 | -0.38 | -0.45 | -0.38 | -0.17 | -0.02 |
| obstacle financial constraints | -0.16 | -0.00 | 0.10 | 0.16 | 0.16 | 0.20 | 0.30 |
| obstacle insufficient demand | 0.32 | 0.37 | 0.39 | 0.35 | 0.19 | -0.05 | -0.38 |
| obstacle other factors | -0.02 | 0.16 | 0.32 | 0.48 | 0.51 | 0.48 | 0.42 |
| obstacle shortage of labour | -0.04 | -0.25 | -0.34 | -0.30 | -0.21 | -0.05 | 0.00 |
| obstacle shortage of space and/or equipment | -0.10 | -0.04 | -0.14 | -0.20 | -0.21 | -0.16 | 0.06 |
| operating expenses, change past 3 months | -0.59 | -0.40 | -0.24 | -0.17 | 0.03 | 0.17 | 0.19 |
| operating expenses, expected change next 3 months | -0.21 | -0.24 | -0.12 | -0.08 | -0.01 | 0.17 | 0.13 |
| operating income, change past 3 months | -0.22 | -0.08 | -0.04 | -0.06 | 0.06 | 0.15 | 0.27 |
| operating income, expected change next 3 months | -0.13 | -0.06 | -0.10 | -0.21 | -0.31 | -0.33 | -0.20 |
| opportunities of refinancing at customer funds, change past 3 months | -0.06 | 0.23 | 0.51 | 0.55 | 0.52 | 0.29 | 0.02 |
| opportunities of refinancing at other funds, change past 3 months | -0.29 | -0.15 | -0.09 | -0.08 | -0.06 | 0.06 | 0.24 |
| prices, expected change next 3 months | 0.07 | 0.14 | 0.09 | 0.04 | -0.09 | 0.08 | 0.23 |
| profit situation, change past 3 months | -0.21 | -0.18 | -0.17 | -0.16 | -0.06 | 0.09 | 0.27 |
| profit situation, expected change next 3 months | -0.24 | -0.12 | -0.11 | -0.15 | -0.25 | -0.23 | -0.13 |
| technical capacities, assessment | 0.03 | -0.26 | -0.27 | -0.19 | -0.16 | -0.09 | -0.15 |
| volume of assets under management, change past 3 months | -0.14 | -0.08 | 0.08 | 0.27 | 0.46 | 0.66 | 0.73 |
| volume of authorized loans, change past 3 months | -0.30 | -0.23 | -0.05 | 0.16 | 0.42 | 0.41 | 0.28 |
| volume of security transactions for clients, change past 3 months | -0.15 | -0.14 | -0.07 | 0.01 | 0.21 | 0.38 | 0.55 |

Table 18: Cross-Correlations with Credit Volume Domestic Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|-------|--------------|
| business situation, assessment | -0.67 | -0.70 | -0.64 | -0.58 | -0.38 | -0.16 | -0.02 |
| business situation, change past 3 months | -0.42 | -0.38 | -0.30 | -0.29 | -0.22 | -0.07 | 0.00 |
| business situation, expected change next 6 months | -0.10 | -0.23 | -0.39 | -0.49 | -0.45 | -0.26 | -0.02 |
| competitive position on domestic market, change past 3 months | -0.33 | -0.15 | 0.05 | 0.09 | 0.16 | 0.23 | 0.29 |
| competitive position, change past 3 months | -0.42 | -0.32 | -0.17 | -0.12 | -0.07 | -0.02 | 0.00 |
| credit rating domestic clients, change past 3 months | 0.05 | 0.03 | -0.01 | -0.07 | -0.18 | -0.34 | -0.40 |
| credit rating foreign clients, change past 3 months | -0.18 | -0.14 | -0.17 | -0.24 | -0.36 | -0.44 | -0.44 |
| demand, change past 3 months | -0.74 | -0.75 | -0.60 | -0.51 | -0.36 | -0.14 | -0.02 |
| demand, expected change next 3 months | -0.60 | -0.57 | -0.55 | -0.46 | -0.33 | -0.14 | 0.04 |
| loans to domestic clients, expected change next 3 months | -0.35 | -0.36 | -0.29 | -0.21 | -0.24 | -0.17 | -0.30 |
| loans to foreign clients, expected change next 3 months | -0.35 | -0.35 | -0.37 | -0.44 | -0.64 | -0.65 | -0.66 |
| no obstacles | 0.49 | 0.39 | 0.34 | 0.18 | 0.19 | 0.18 | 0.16 |
| number of employees, assessment | 0.18 | 0.18 | 0.31 | 0.41 | 0.47 | 0.34 | 0.07 |
| number of employees, change past 3 months | -0.26 | -0.49 | -0.58 | -0.66 | -0.67 | -0.55 | -0.51 |
| number of employees, expected change next 3 months | -0.17 | -0.37 | -0.44 | -0.52 | -0.40 | -0.19 | -0.06 |
| obstacle financial constraints | -0.74 | -0.58 | -0.44 | -0.31 | -0.27 | -0.21 | -0.10 |
| obstacle insufficient demand | 0.59 | 0.59 | 0.53 | 0.45 | 0.26 | 0.01 | -0.27 |
| obstacle other factors | -0.38 | -0.21 | -0.09 | 0.08 | 0.10 | 0.08 | 0.01 |
| obstacle shortage of labour | -0.17 | -0.35 | -0.48 | -0.53 | -0.51 | -0.42 | -0.39 |
| obstacle shortage of space and/or equipment | -0.45 | -0.45 | -0.48 | -0.48 | -0.40 | -0.27 | -0.04 |
| operating expenses, change past 3 months | -0.60 | -0.59 | -0.54 | -0.53 | -0.39 | -0.27 | -0.25 |
| operating expenses, expected change next 3 months | -0.14 | -0.25 | -0.26 | -0.30 | -0.32 | -0.20 | -0.25 |
| operating income, change past 3 months | -0.53 | -0.45 | -0.37 | -0.35 | -0.24 | -0.11 | 0.01 |
| operating income, expected change next 3 months | -0.40 | -0.43 | -0.48 | -0.55 | -0.57 | -0.54 | -0.40 |
| opportunities of refinancing at customer funds, change past 3 months | 0.36 | 0.48 | 0.54 | 0.47 | 0.48 | 0.49 | 0.47 |
| opportunities of refinancing at other funds, change past 3 months | -0.26 | -0.22 | -0.29 | -0.37 | -0.33 | -0.15 | 0.06 |
| prices, expected change next 3 months | -0.09 | 0.01 | 0.07 | 0.12 | 0.11 | 0.30 | 0.44 |
| profit situation, change past 3 months | -0.63 | -0.60 | -0.54 | -0.50 | -0.39 | -0.23 | -0.09 |
| profit situation, expected change next 3 months | -0.37 | -0.39 | -0.44 | -0.46 | -0.49 | -0.41 | -0.27 |
| technical capacities, assessment | 0.39 | 0.22 | 0.18 | 0.21 | 0.18 | 0.24 | 0.22 |
| volume of assets under management, change past 3 months | -0.21 | -0.14 | -0.02 | 0.10 | 0.24 | 0.40 | 0.43 |
| volume of authorized loans, change past 3 months | -0.11 | -0.14 | -0.04 | 0.10 | 0.26 | 0.17 | -0.01 |
| volume of security transactions for clients, change past 3 months | -0.49 | -0.39 | -0.24 | -0.12 | 0.07 | 0.21 | 0.30 |

Table 19: Cross-Correlations with Credit Volume Total Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| business situation, assessment | -0.55 | -0.42 | -0.29 | -0.18 | -0.02 | 0.08 | 0.02 |
| business situation, change past 3 months | -0.16 | -0.04 | 0.04 | 0.10 | 0.19 | 0.25 | 0.18 |
| business situation, expected change next 6 months | -0.34 | -0.33 | -0.34 | -0.27 | -0.17 | -0.02 | -0.03 |
| competitive position on domestic market, change past 3 months | -0.09 | 0.16 | 0.25 | 0.27 | 0.37 | 0.41 | 0.46 |
| competitive position, change past 3 months | -0.22 | 0.02 | 0.16 | 0.18 | 0.19 | 0.17 | 0.15 |
| credit rating domestic clients, change past 3 months | 0.19 | 0.43 | 0.59 | 0.63 | 0.49 | 0.25 | 0.03 |
| credit rating foreign clients, change past 3 months | 0.38 | 0.54 | 0.52 | 0.34 | 0.11 | -0.09 | -0.23 |
| demand, change past 3 months | -0.62 | -0.52 | -0.37 | -0.20 | -0.01 | 0.12 | 0.09 |
| demand, expected change next 3 months | -0.59 | -0.43 | -0.27 | -0.06 | 0.11 | 0.22 | 0.24 |
| loans to domestic clients, expected change next 3 months | -0.21 | -0.03 | 0.14 | 0.24 | 0.17 | 0.11 | -0.14 |
| loans to foreign clients, expected change next 3 months | 0.10 | 0.21 | 0.16 | 0.04 | -0.12 | -0.17 | -0.22 |
| no obstacles | 0.11 | 0.12 | 0.16 | 0.08 | 0.13 | 0.05 | -0.17 |
| number of employees, assessment | 0.39 | 0.39 | 0.43 | 0.33 | 0.27 | 0.02 | -0.26 |
| number of employees, change past 3 months | -0.48 | -0.52 | -0.42 | -0.41 | -0.44 | -0.49 | -0.57 |
| number of employees, expected change next 3 months | -0.46 | -0.45 | -0.31 | -0.21 | -0.09 | -0.06 | -0.27 |
| obstacle financial constraints | -0.43 | -0.28 | -0.17 | -0.05 | 0.01 | 0.14 | 0.38 |
| obstacle insufficient demand | 0.61 | 0.46 | 0.30 | 0.18 | -0.04 | -0.25 | -0.25 |
| obstacle other factors | 0.04 | 0.11 | 0.16 | 0.24 | 0.23 | 0.23 | 0.31 |
| obstacle shortage of labour | -0.07 | -0.24 | -0.32 | -0.29 | -0.24 | -0.25 | -0.41 |
| obstacle shortage of space and/or equipment | -0.35 | -0.36 | -0.37 | -0.36 | -0.15 | 0.04 | 0.05 |
| operating expenses, change past 3 months | -0.59 | -0.43 | -0.28 | -0.22 | -0.10 | -0.13 | -0.25 |
| operating expenses, expected change next 3 months | -0.16 | -0.19 | -0.15 | -0.11 | -0.08 | -0.05 | -0.16 |
| operating income, change past 3 months | -0.45 | -0.27 | -0.11 | -0.02 | 0.16 | 0.22 | 0.18 |
| operating income, expected change next 3 months | -0.47 | -0.33 | -0.29 | -0.29 | -0.32 | -0.30 | -0.13 |
| opportunities of refinancing at customer funds, change past 3 months | 0.06 | -0.08 | -0.21 | -0.25 | -0.11 | 0.04 | 0.22 |
| opportunities of refinancing at other funds, change past 3 months | 0.22 | 0.12 | -0.06 | -0.25 | -0.30 | -0.25 | -0.14 |
| prices, expected change next 3 months | -0.11 | 0.07 | 0.03 | 0.11 | 0.12 | 0.38 | 0.60 |
| profit situation, change past 3 months | -0.43 | -0.34 | -0.25 | -0.16 | 0.01 | 0.12 | 0.12 |
| profit situation, expected change next 3 months | -0.55 | -0.38 | -0.28 | -0.19 | -0.19 | -0.15 | -0.04 |
| technical capacities, assessment | 0.08 | -0.05 | -0.05 | -0.02 | -0.09 | -0.04 | -0.15 |
| volume of assets under management, change past 3 months | 0.02 | 0.22 | 0.40 | 0.50 | 0.56 | 0.57 | 0.40 |
| volume of authorized loans, change past 3 months | -0.06 | -0.03 | 0.16 | 0.23 | 0.31 | 0.08 | -0.20 |
| volume of security transactions for clients, change past 3 months | -0.42 | -0.16 | 0.11 | 0.28 | 0.45 | 0.44 | 0.35 |

3.1.5 Interest Rates, Exchange Rates, and Bond Yields

Table 20: Cross-Correlations with 1-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| business situation, assessment | -0.08 | -0.25 | -0.21 | -0.10 | -0.21 | -0.01 | -0.07 |
| business situation, change past 3 months | -0.07 | -0.16 | -0.07 | 0.05 | 0.04 | 0.19 | 0.15 |
| business situation, expected change next 6 months | -0.00 | 0.01 | 0.14 | 0.22 | 0.15 | 0.06 | -0.02 |
| competitive position on domestic market, change past 3 months | -0.26 | 0.08 | -0.18 | -0.16 | -0.14 | 0.02 | 0.17 |
| competitive position, change past 3 months | -0.10 | 0.20 | 0.02 | -0.07 | -0.12 | 0.03 | 0.09 |
| credit rating domestic clients, change past 3 months | -0.18 | 0.26 | 0.49 | 0.75 | 0.79 | 0.61 | 0.43 |
| credit rating foreign clients, change past 3 months | 0.24 | 0.57 | 0.67 | 0.66 | 0.42 | 0.12 | -0.04 |
| demand, change past 3 months | -0.25 | -0.39 | -0.35 | -0.31 | -0.20 | 0.05 | 0.03 |
| demand, expected change next 3 months | -0.21 | -0.25 | -0.12 | -0.06 | -0.11 | -0.12 | -0.15 |
| loans to domestic clients, expected change next 3 months | -0.23 | -0.01 | 0.19 | 0.38 | 0.34 | 0.22 | 0.03 |
| loans to foreign clients, expected change next 3 months | 0.13 | 0.27 | 0.42 | 0.39 | 0.27 | 0.19 | 0.04 |
| no obstacles | 0.09 | 0.03 | 0.12 | 0.24 | 0.24 | 0.43 | 0.26 |
| number of employees, assessment | 0.19 | 0.12 | 0.15 | 0.13 | 0.03 | 0.04 | -0.11 |
| number of employees, change past 3 months | 0.12 | 0.15 | 0.18 | 0.30 | 0.09 | -0.13 | -0.32 |
| number of employees, expected change next 3 months | 0.13 | 0.07 | 0.12 | 0.23 | 0.02 | -0.02 | -0.30 |
| obstacle financial constraints | -0.32 | -0.29 | -0.29 | -0.26 | -0.15 | -0.20 | 0.03 |
| obstacle insufficient demand | 0.18 | 0.23 | 0.38 | 0.41 | 0.42 | 0.28 | 0.13 |
| obstacle other factors | -0.18 | -0.19 | -0.26 | -0.25 | -0.07 | -0.21 | 0.00 |
| obstacle shortage of labour | 0.22 | 0.27 | 0.27 | 0.29 | 0.35 | 0.17 | -0.09 |
| obstacle shortage of space and/or equipment | 0.00 | 0.12 | 0.06 | -0.11 | -0.11 | -0.15 | -0.33 |
| operating expenses, change past 3 months | -0.31 | -0.28 | -0.11 | 0.08 | 0.11 | -0.02 | -0.25 |
| operating expenses, expected change next 3 months | -0.22 | -0.21 | -0.06 | 0.25 | 0.27 | 0.18 | 0.09 |
| operating income, change past 3 months | -0.21 | -0.34 | -0.23 | -0.12 | -0.14 | -0.08 | -0.04 |
| operating income, expected change next 3 months | -0.07 | 0.10 | 0.16 | 0.11 | -0.00 | -0.13 | -0.12 |
| opportunities of refinancing at customer funds, change past 3 months | -0.01 | -0.19 | -0.37 | -0.49 | -0.43 | -0.23 | -0.02 |
| opportunities of refinancing at other funds, change past 3 months | 0.51 | 0.36 | 0.26 | 0.06 | -0.15 | -0.26 | -0.37 |
| prices, expected change next 3 months | -0.12 | -0.17 | -0.33 | -0.30 | -0.33 | -0.26 | 0.12 |
| profit situation, change past 3 months | -0.07 | -0.28 | -0.22 | -0.23 | -0.16 | 0.06 | 0.03 |
| profit situation, expected change next 3 months | -0.22 | 0.01 | 0.14 | 0.20 | 0.13 | -0.10 | -0.07 |
| technical capacities, assessment | 0.07 | 0.21 | 0.10 | 0.05 | -0.08 | -0.10 | -0.11 |
| volume of assets under management, change past 3 months | -0.34 | -0.21 | -0.03 | 0.11 | 0.17 | 0.28 | 0.24 |
| volume of authorized loans, change past 3 months | -0.39 | -0.19 | -0.02 | 0.20 | 0.49 | 0.46 | 0.21 |
| volume of security transactions for clients, change past 3 months | -0.41 | -0.42 | -0.27 | -0.14 | 0.01 | 0.13 | 0.10 |

Table 21: Cross-Correlations with 3-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------------|--------------|--------------|--------------|--------------|
| business situation, assessment | -0.08 | -0.27 | -0.23 | -0.12 | -0.21 | 0.03 | -0.05 |
| business situation, change past 3 months | -0.08 | -0.16 | -0.06 | 0.07 | 0.08 | 0.25 | 0.22 |
| business situation, expected change next 6 months | -0.03 | -0.03 | 0.07 | 0.14 | 0.06 | -0.01 | -0.07 |
| competitive position on domestic market, change past 3 months | -0.26 | 0.09 | -0.14 | -0.12 | -0.09 | 0.08 | 0.22 |
| competitive position, change past 3 months | -0.10 | 0.18 | 0.03 | -0.05 | -0.08 | 0.09 | 0.11 |
| credit rating domestic clients, change past 3 months | -0.07 | 0.34 | 0.58 | 0.78 | 0.77 | 0.56 | 0.34 |
| credit rating foreign clients, change past 3 months | 0.32 | 0.63 | 0.72 | 0.63 | 0.35 | 0.05 | -0.10 |
| demand, change past 3 months | -0.25 | -0.41 | -0.36 | -0.32 | -0.19 | 0.09 | 0.05 |
| demand, expected change next 3 months | -0.21 | -0.25 | -0.13 | -0.08 | -0.12 | -0.10 | -0.09 |
| loans to domestic clients, expected change next 3 months | -0.19 | 0.04 | 0.24 | 0.39 | 0.33 | 0.20 | 0.00 |
| loans to foreign clients, expected change next 3 months | 0.17 | 0.33 | 0.45 | 0.38 | 0.24 | 0.14 | 0.03 |
| no obstacles | 0.06 | -0.03 | 0.05 | 0.14 | 0.14 | 0.34 | 0.07 |
| number of employees, assessment | 0.19 | 0.12 | 0.18 | 0.17 | 0.11 | 0.14 | -0.09 |
| number of employees, change past 3 months | 0.12 | 0.13 | 0.14 | 0.26 | 0.04 | -0.16 | -0.34 |
| number of employees, expected change next 3 months | 0.11 | 0.01 | 0.05 | 0.14 | -0.07 | -0.07 | -0.36 |
| obstacle financial constraints | -0.30 | -0.25 | -0.25 | -0.19 | -0.08 | -0.13 | 0.15 |
| obstacle insufficient demand | 0.19 | 0.26 | 0.42 | 0.45 | 0.45 | 0.28 | 0.14 |
| obstacle other factors | -0.15 | -0.13 | -0.17 | -0.13 | 0.07 | -0.08 | 0.18 |
| obstacle shortage of labour | 0.20 | 0.25 | 0.25 | 0.26 | 0.33 | 0.18 | -0.09 |
| obstacle shortage of space and/or equipment | -0.00 | 0.11 | 0.06 | -0.13 | -0.13 | -0.16 | -0.32 |
| operating expenses, change past 3 months | -0.31 | -0.29 | -0.11 | 0.08 | 0.12 | 0.03 | -0.23 |
| operating expenses, expected change next 3 months | -0.22 | -0.21 | -0.04 | 0.26 | 0.28 | 0.21 | 0.12 |
| operating income, change past 3 months | -0.20 | -0.33 | -0.21 | -0.10 | -0.12 | -0.04 | 0.01 |
| operating income, expected change next 3 months | -0.07 | 0.09 | 0.14 | 0.09 | -0.03 | -0.16 | -0.12 |
| opportunities of refinancing at customer funds, change past 3 months | -0.06 | -0.25 | -0.42 | -0.51 | -0.41 | -0.18 | 0.04 |
| opportunities of refinancing at other funds, change past 3 months | 0.48 | 0.31 | 0.17 | -0.04 | -0.22 | -0.32 | -0.37 |
| prices, expected change next 3 months | -0.12 | -0.16 | -0.33 | -0.29 | -0.33 | -0.28 | 0.16 |
| profit situation, change past 3 months | -0.07 | -0.28 | -0.20 | -0.23 | -0.14 | 0.09 | 0.07 |
| profit situation, expected change next 3 months | -0.23 | -0.00 | 0.11 | 0.17 | 0.09 | -0.14 | -0.07 |
| technical capacities, assessment | 0.06 | 0.18 | 0.04 | -0.01 | -0.15 | -0.16 | -0.17 |
| volume of assets under management, change past 3 months | -0.36 | -0.23 | -0.02 | 0.14 | 0.22 | 0.38 | 0.31 |
| volume of authorized loans, change past 3 months | -0.40 | -0.21 | -0.04 | 0.19 | 0.52 | 0.52 | 0.16 |
| volume of security transactions for clients, change past 3 months | -0.40 | -0.43 | -0.28 | -0.14 | 0.04 | 0.19 | 0.14 |

Table 22: Cross-Correlations with 6-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| business situation, assessment | -0.10 | -0.28 | -0.24 | -0.13 | -0.20 | 0.03 | -0.05 |
| business situation, change past 3 months | -0.12 | -0.19 | -0.06 | 0.10 | 0.13 | 0.28 | 0.23 |
| business situation, expected change next 6 months | -0.06 | -0.06 | 0.05 | 0.12 | 0.04 | -0.04 | -0.10 |
| competitive position on domestic market, change past 3 months | -0.25 | 0.06 | -0.16 | -0.12 | -0.07 | 0.09 | 0.23 |
| competitive position, change past 3 months | -0.08 | 0.17 | -0.00 | -0.07 | -0.08 | 0.10 | 0.13 |
| credit rating domestic clients, change past 3 months | -0.04 | 0.37 | 0.61 | 0.79 | 0.76 | 0.54 | 0.32 |
| credit rating foreign clients, change past 3 months | 0.34 | 0.65 | 0.73 | 0.62 | 0.34 | 0.03 | -0.11 |
| demand, change past 3 months | -0.27 | -0.42 | -0.37 | -0.31 | -0.17 | 0.09 | 0.05 |
| demand, expected change next 3 months | -0.22 | -0.26 | -0.15 | -0.09 | -0.14 | -0.11 | -0.07 |
| loans to domestic clients, expected change next 3 months | -0.18 | 0.05 | 0.25 | 0.39 | 0.32 | 0.18 | -0.01 |
| loans to foreign clients, expected change next 3 months | 0.18 | 0.34 | 0.45 | 0.38 | 0.24 | 0.14 | 0.03 |
| no obstacles | 0.04 | -0.06 | 0.01 | 0.10 | 0.12 | 0.31 | 0.04 |
| number of employees, assessment | 0.20 | 0.16 | 0.20 | 0.19 | 0.14 | 0.16 | -0.07 |
| number of employees, change past 3 months | 0.12 | 0.15 | 0.17 | 0.24 | 0.01 | -0.20 | -0.36 |
| number of employees, expected change next 3 months | 0.08 | 0.01 | 0.04 | 0.11 | -0.10 | -0.12 | -0.38 |
| obstacle financial constraints | -0.28 | -0.25 | -0.26 | -0.19 | -0.07 | -0.09 | 0.18 |
| obstacle insufficient demand | 0.20 | 0.30 | 0.46 | 0.48 | 0.45 | 0.27 | 0.14 |
| obstacle other factors | -0.14 | -0.11 | -0.13 | -0.08 | 0.10 | -0.03 | 0.22 |
| obstacle shortage of labour | 0.19 | 0.24 | 0.26 | 0.28 | 0.33 | 0.17 | -0.11 |
| obstacle shortage of space and/or equipment | -0.01 | 0.09 | 0.04 | -0.14 | -0.15 | -0.19 | -0.32 |
| operating expenses, change past 3 months | -0.32 | -0.27 | -0.08 | 0.10 | 0.12 | 0.01 | -0.23 |
| operating expenses, expected change next 3 months | -0.25 | -0.19 | 0.00 | 0.30 | 0.30 | 0.21 | 0.10 |
| operating income, change past 3 months | -0.23 | -0.34 | -0.21 | -0.09 | -0.10 | -0.03 | 0.02 |
| operating income, expected change next 3 months | -0.05 | 0.09 | 0.12 | 0.06 | -0.06 | -0.17 | -0.11 |
| opportunities of refinancing at customer funds, change past 3 months | -0.08 | -0.26 | -0.43 | -0.51 | -0.40 | -0.17 | 0.05 |
| opportunities of refinancing at other funds, change past 3 months | 0.46 | 0.29 | 0.16 | -0.04 | -0.23 | -0.33 | -0.37 |
| prices, expected change next 3 months | -0.13 | -0.18 | -0.35 | -0.31 | -0.34 | -0.27 | 0.18 |
| profit situation, change past 3 months | -0.09 | -0.30 | -0.22 | -0.21 | -0.12 | 0.10 | 0.08 |
| profit situation, expected change next 3 months | -0.21 | 0.00 | 0.10 | 0.15 | 0.05 | -0.17 | -0.08 |
| technical capacities, assessment | 0.07 | 0.17 | 0.03 | -0.03 | -0.17 | -0.17 | -0.20 |
| volume of assets under management, change past 3 months | -0.40 | -0.23 | -0.00 | 0.17 | 0.25 | 0.40 | 0.33 |
| volume of authorized loans, change past 3 months | -0.39 | -0.18 | -0.02 | 0.19 | 0.51 | 0.52 | 0.16 |
| volume of security transactions for clients, change past 3 months | -0.43 | -0.45 | -0.30 | -0.15 | 0.05 | 0.21 | 0.17 |

Table 23: Cross-Correlations with Savon Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|-------------|--------------|--------------|--------------|
| business situation, assessment | -0.15 | -0.27 | -0.22 | -0.04 | -0.12 | 0.05 | 0.05 |
| business situation, change past 3 months | -0.10 | -0.15 | -0.06 | 0.07 | 0.09 | 0.18 | 0.13 |
| business situation, expected change next 6 months | -0.07 | -0.05 | 0.12 | 0.26 | 0.27 | 0.24 | 0.22 |
| competitive position on domestic market, change past 3 months | -0.25 | 0.06 | -0.19 | -0.16 | -0.13 | -0.00 | 0.13 |
| competitive position, change past 3 months | -0.12 | 0.17 | 0.01 | -0.06 | -0.08 | 0.05 | 0.15 |
| credit rating domestic clients, change past 3 months | -0.37 | 0.08 | 0.31 | 0.64 | 0.80 | 0.68 | 0.57 |
| credit rating foreign clients, change past 3 months | 0.06 | 0.43 | 0.59 | 0.69 | 0.52 | 0.25 | 0.08 |
| demand, change past 3 months | -0.32 | -0.43 | -0.37 | -0.27 | -0.15 | 0.08 | 0.09 |
| demand, expected change next 3 months | -0.28 | -0.30 | -0.14 | -0.04 | -0.07 | -0.04 | -0.08 |
| loans to domestic clients, expected change next 3 months | -0.35 | -0.09 | 0.08 | 0.33 | 0.37 | 0.25 | 0.12 |
| loans to foreign clients, expected change next 3 months | 0.03 | 0.16 | 0.36 | 0.40 | 0.30 | 0.24 | 0.09 |
| no obstacles | 0.08 | 0.04 | 0.12 | 0.31 | 0.33 | 0.56 | 0.60 |
| number of employees, assessment | 0.25 | 0.23 | 0.21 | 0.18 | -0.03 | -0.07 | -0.20 |
| number of employees, change past 3 months | 0.06 | 0.13 | 0.15 | 0.28 | 0.12 | -0.07 | -0.17 |
| number of employees, expected change next 3 months | 0.05 | 0.05 | 0.11 | 0.29 | 0.14 | 0.13 | 0.02 |
| obstacle financial constraints | -0.34 | -0.32 | -0.32 | -0.30 | -0.20 | -0.23 | -0.14 |
| obstacle insufficient demand | 0.26 | 0.28 | 0.41 | 0.35 | 0.31 | 0.15 | -0.06 |
| obstacle other factors | -0.15 | -0.17 | -0.23 | -0.30 | -0.19 | -0.37 | -0.37 |
| obstacle shortage of labour | 0.17 | 0.25 | 0.30 | 0.34 | 0.41 | 0.22 | -0.00 |
| obstacle shortage of space and/or equipment | -0.05 | 0.07 | 0.02 | -0.07 | -0.05 | -0.06 | -0.22 |
| operating expenses, change past 3 months | -0.34 | -0.27 | -0.13 | 0.10 | 0.10 | -0.03 | -0.18 |
| operating expenses, expected change next 3 months | -0.23 | -0.19 | -0.06 | 0.22 | 0.27 | 0.13 | 0.04 |
| operating income, change past 3 months | -0.25 | -0.35 | -0.26 | -0.11 | -0.14 | -0.08 | -0.03 |
| operating income, expected change next 3 months | -0.12 | 0.03 | 0.09 | 0.08 | 0.01 | -0.03 | -0.00 |
| opportunities of refinancing at customer funds, change past 3 months | 0.14 | -0.05 | -0.25 | -0.43 | -0.48 | -0.34 | -0.15 |
| opportunities of refinancing at other funds, change past 3 months | 0.55 | 0.46 | 0.40 | 0.23 | -0.01 | -0.14 | -0.31 |
| prices, expected change next 3 months | -0.16 | -0.21 | -0.34 | -0.33 | -0.27 | -0.22 | 0.08 |
| profit situation, change past 3 months | -0.13 | -0.32 | -0.25 | -0.20 | -0.13 | 0.09 | 0.06 |
| profit situation, expected change next 3 months | -0.27 | -0.05 | 0.08 | 0.17 | 0.14 | 0.01 | 0.06 |
| technical capacities, assessment | 0.07 | 0.23 | 0.15 | 0.07 | 0.00 | -0.06 | -0.00 |
| volume of assets under management, change past 3 months | -0.32 | -0.17 | 0.03 | 0.16 | 0.21 | 0.27 | 0.18 |
| volume of authorized loans, change past 3 months | -0.38 | -0.14 | 0.04 | 0.27 | 0.46 | 0.42 | 0.27 |
| volume of security transactions for clients, change past 3 months | -0.45 | -0.41 | -0.26 | -0.08 | 0.04 | 0.17 | 0.15 |

Table 24: Cross-Correlations with CHF EUR Exchange Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------------|-------------|--------------|-------------|--------------|
| business situation, assessment | -0.11 | -0.12 | -0.04 | 0.08 | 0.15 | 0.36 | 0.51 |
| business situation, change past 3 months | 0.08 | 0.15 | 0.22 | 0.40 | 0.51 | 0.58 | 0.61 |
| business situation, expected change next 6 months | -0.41 | -0.42 | -0.35 | -0.21 | -0.15 | -0.01 | 0.25 |
| competitive position on domestic market, change past 3 months | 0.03 | 0.24 | 0.20 | 0.30 | 0.36 | 0.47 | 0.55 |
| competitive position, change past 3 months | -0.01 | 0.26 | 0.25 | 0.26 | 0.28 | 0.42 | 0.55 |
| credit rating domestic clients, change past 3 months | 0.03 | 0.07 | 0.07 | 0.16 | 0.21 | 0.11 | 0.12 |
| credit rating foreign clients, change past 3 months | -0.03 | 0.08 | 0.18 | 0.33 | 0.29 | 0.08 | -0.02 |
| demand, change past 3 months | -0.18 | -0.21 | -0.15 | 0.01 | 0.16 | 0.30 | 0.46 |
| demand, expected change next 3 months | -0.30 | -0.21 | -0.02 | 0.15 | 0.24 | 0.30 | 0.48 |
| loans to domestic clients, expected change next 3 months | -0.24 | -0.16 | -0.08 | 0.16 | 0.36 | 0.40 | 0.46 |
| loans to foreign clients, expected change next 3 months | 0.10 | 0.11 | 0.15 | 0.20 | 0.16 | 0.18 | 0.11 |
| no obstacles | -0.32 | -0.37 | -0.36 | -0.37 | -0.32 | -0.21 | -0.09 |
| number of employees, assessment | 0.40 | 0.39 | 0.41 | 0.31 | 0.34 | 0.21 | -0.06 |
| number of employees, change past 3 months | -0.28 | -0.18 | -0.05 | -0.05 | -0.13 | -0.17 | -0.10 |
| number of employees, expected change next 3 months | -0.48 | -0.42 | -0.25 | -0.11 | -0.08 | 0.02 | 0.16 |
| obstacle financial constraints | 0.06 | 0.13 | 0.17 | 0.27 | 0.36 | 0.39 | 0.51 |
| obstacle insufficient demand | 0.29 | 0.26 | 0.26 | 0.18 | 0.06 | -0.19 | -0.43 |
| obstacle other factors | 0.39 | 0.46 | 0.51 | 0.60 | 0.63 | 0.43 | 0.23 |
| obstacle shortage of labour | 0.02 | -0.04 | -0.02 | 0.10 | 0.22 | 0.29 | 0.33 |
| obstacle shortage of space and/or equipment | -0.15 | -0.15 | -0.16 | -0.11 | 0.10 | 0.29 | 0.31 |
| operating expenses, change past 3 months | -0.26 | -0.10 | 0.00 | 0.16 | 0.23 | 0.18 | 0.15 |
| operating expenses, expected change next 3 months | -0.13 | -0.04 | 0.04 | 0.23 | 0.27 | 0.16 | 0.04 |
| operating income, change past 3 months | -0.12 | -0.04 | 0.10 | 0.29 | 0.37 | 0.34 | 0.34 |
| operating income, expected change next 3 months | -0.18 | -0.04 | -0.02 | -0.02 | -0.10 | -0.09 | 0.16 |
| opportunities of refinancing at customer funds, change past 3 months | -0.01 | 0.06 | 0.07 | 0.06 | -0.00 | -0.04 | -0.04 |
| opportunities of refinancing at other funds, change past 3 months | -0.26 | -0.16 | 0.04 | 0.15 | 0.15 | 0.12 | 0.07 |
| prices, expected change next 3 months | -0.07 | 0.02 | -0.16 | -0.10 | -0.15 | -0.07 | 0.17 |
| profit situation, change past 3 months | 0.00 | -0.03 | 0.03 | 0.14 | 0.29 | 0.38 | 0.46 |
| profit situation, expected change next 3 months | -0.41 | -0.23 | -0.11 | 0.00 | -0.05 | -0.06 | 0.18 |
| technical capacities, assessment | -0.30 | -0.23 | -0.31 | -0.38 | -0.44 | -0.33 | -0.27 |
| volume of assets under management, change past 3 months | -0.07 | 0.17 | 0.38 | 0.52 | 0.65 | 0.71 | 0.69 |
| volume of authorized loans, change past 3 months | -0.20 | -0.06 | 0.07 | 0.14 | 0.30 | 0.34 | 0.28 |
| volume of security transactions for clients, change past 3 months | -0.26 | -0.07 | 0.12 | 0.26 | 0.42 | 0.51 | 0.62 |

Table 25: Cross-Correlations with CHF USD Exchange Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| business situation, assessment | -0.38 | -0.25 | -0.11 | 0.12 | 0.37 | 0.39 | 0.30 |
| business situation, change past 3 months | -0.25 | -0.12 | -0.09 | 0.11 | 0.47 | 0.54 | 0.50 |
| business situation, expected change next 6 months | -0.57 | -0.76 | -0.69 | -0.40 | -0.02 | 0.18 | 0.13 |
| competitive position on domestic market, change past 3 months | 0.23 | 0.23 | 0.03 | 0.11 | 0.20 | 0.26 | 0.40 |
| competitive position, change past 3 months | -0.00 | -0.00 | -0.09 | -0.08 | 0.03 | 0.18 | 0.40 |
| credit rating domestic clients, change past 3 months | 0.38 | 0.04 | -0.20 | -0.28 | -0.20 | -0.03 | 0.16 |
| credit rating foreign clients, change past 3 months | 0.31 | -0.06 | -0.29 | -0.24 | 0.08 | 0.38 | 0.49 |
| demand, change past 3 months | -0.11 | 0.02 | -0.02 | 0.11 | 0.29 | 0.22 | 0.21 |
| demand, expected change next 3 months | -0.20 | -0.29 | -0.25 | -0.07 | 0.21 | 0.35 | 0.49 |
| loans to domestic clients, expected change next 3 months | -0.02 | -0.13 | -0.22 | -0.24 | -0.08 | -0.02 | 0.21 |
| loans to foreign clients, expected change next 3 months | 0.11 | -0.08 | -0.26 | -0.23 | 0.08 | 0.28 | 0.36 |
| no obstacles | -0.35 | -0.42 | -0.57 | -0.59 | -0.44 | -0.41 | -0.35 |
| number of employees, assessment | 0.01 | 0.46 | 0.65 | 0.48 | 0.26 | -0.13 | -0.31 |
| number of employees, change past 3 months | -0.41 | -0.44 | -0.35 | -0.22 | -0.08 | -0.02 | -0.02 |
| number of employees, expected change next 3 months | -0.64 | -0.68 | -0.51 | -0.30 | -0.03 | 0.07 | 0.06 |
| obstacle financial constraints | 0.27 | 0.19 | 0.18 | 0.15 | 0.26 | 0.44 | 0.65 |
| obstacle insufficient demand | 0.27 | 0.23 | 0.16 | 0.01 | -0.29 | -0.44 | -0.37 |
| obstacle other factors | 0.47 | 0.63 | 0.64 | 0.62 | 0.52 | 0.42 | 0.37 |
| obstacle shortage of labour | -0.56 | -0.49 | -0.26 | -0.03 | 0.14 | 0.14 | 0.09 |
| obstacle shortage of space and/or equipment | -0.29 | -0.30 | -0.24 | -0.12 | 0.20 | 0.35 | 0.32 |
| operating expenses, change past 3 months | -0.13 | -0.02 | -0.01 | 0.09 | 0.28 | 0.17 | 0.08 |
| operating expenses, expected change next 3 months | -0.15 | -0.01 | -0.03 | 0.01 | 0.24 | 0.14 | -0.04 |
| operating income, change past 3 months | 0.01 | 0.03 | -0.10 | 0.01 | 0.39 | 0.45 | 0.44 |
| operating income, expected change next 3 months | -0.15 | -0.40 | -0.50 | -0.39 | -0.17 | 0.07 | 0.35 |
| opportunities of refinancing at customer funds, change past 3 months | -0.09 | -0.02 | 0.03 | 0.15 | 0.05 | -0.25 | -0.44 |
| opportunities of refinancing at other funds, change past 3 months | -0.30 | -0.29 | -0.17 | 0.06 | 0.34 | 0.50 | 0.49 |
| prices, expected change next 3 months | 0.18 | -0.03 | -0.06 | 0.05 | 0.16 | 0.24 | 0.27 |
| profit situation, change past 3 months | -0.14 | -0.12 | -0.14 | -0.01 | 0.33 | 0.39 | 0.42 |
| profit situation, expected change next 3 months | -0.14 | -0.44 | -0.53 | -0.44 | -0.23 | 0.01 | 0.24 |
| technical capacities, assessment | -0.26 | -0.16 | 0.04 | -0.01 | -0.20 | -0.27 | -0.42 |
| volume of assets under management, change past 3 months | -0.21 | -0.02 | 0.18 | 0.34 | 0.53 | 0.46 | 0.25 |
| volume of authorized loans, change past 3 months | -0.07 | 0.10 | 0.19 | 0.08 | -0.13 | -0.36 | -0.34 |
| volume of security transactions for clients, change past 3 months | -0.10 | -0.08 | -0.05 | 0.10 | 0.33 | 0.39 | 0.49 |

Table 26: Cross-Correlations with 1-year Swiss Zero Bond Yield Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| business situation, assessment | -0.07 | -0.18 | -0.07 | 0.02 | -0.00 | 0.13 | 0.04 |
| business situation, change past 3 months | -0.06 | -0.08 | 0.07 | 0.20 | 0.19 | 0.25 | 0.18 |
| business situation, expected change next 6 months | -0.12 | 0.01 | 0.20 | 0.37 | 0.34 | 0.23 | 0.13 |
| competitive position on domestic market, change past 3 months | -0.16 | 0.00 | -0.13 | -0.13 | -0.12 | 0.06 | 0.18 |
| competitive position, change past 3 months | -0.05 | 0.15 | 0.04 | -0.03 | -0.01 | 0.18 | 0.23 |
| credit rating domestic clients, change past 3 months | -0.25 | 0.19 | 0.45 | 0.69 | 0.79 | 0.63 | 0.48 |
| credit rating foreign clients, change past 3 months | 0.22 | 0.55 | 0.66 | 0.64 | 0.42 | 0.15 | 0.03 |
| demand, change past 3 months | -0.26 | -0.33 | -0.26 | -0.18 | -0.07 | 0.13 | 0.16 |
| demand, expected change next 3 months | -0.20 | -0.16 | -0.03 | 0.06 | 0.05 | 0.03 | -0.01 |
| loans to domestic clients, expected change next 3 months | -0.26 | 0.02 | 0.22 | 0.42 | 0.41 | 0.27 | 0.10 |
| loans to foreign clients, expected change next 3 months | 0.10 | 0.27 | 0.43 | 0.45 | 0.34 | 0.28 | 0.14 |
| no obstacles | -0.10 | -0.15 | 0.00 | 0.17 | 0.27 | 0.48 | 0.38 |
| number of employees, assessment | 0.29 | 0.21 | 0.14 | 0.05 | -0.08 | -0.15 | -0.20 |
| number of employees, change past 3 months | 0.16 | 0.22 | 0.27 | 0.36 | 0.21 | 0.05 | -0.11 |
| number of employees, expected change next 3 months | 0.08 | 0.13 | 0.19 | 0.29 | 0.17 | 0.12 | -0.09 |
| obstacle financial constraints | -0.22 | -0.22 | -0.20 | -0.12 | -0.04 | -0.05 | 0.04 |
| obstacle insufficient demand | 0.14 | 0.22 | 0.32 | 0.31 | 0.27 | 0.14 | 0.04 |
| obstacle other factors | 0.01 | -0.06 | -0.19 | -0.21 | -0.17 | -0.30 | -0.13 |
| obstacle shortage of labour | 0.19 | 0.37 | 0.45 | 0.52 | 0.50 | 0.32 | 0.02 |
| obstacle shortage of space and/or equipment | 0.08 | 0.19 | 0.19 | 0.11 | 0.08 | -0.04 | -0.26 |
| operating expenses, change past 3 months | -0.18 | -0.17 | -0.01 | 0.21 | 0.17 | 0.08 | -0.12 |
| operating expenses, expected change next 3 months | -0.16 | -0.17 | 0.03 | 0.33 | 0.31 | 0.22 | 0.09 |
| operating income, change past 3 months | -0.11 | -0.27 | -0.17 | -0.01 | -0.07 | -0.01 | 0.03 |
| operating income, expected change next 3 months | -0.08 | 0.06 | 0.16 | 0.20 | 0.18 | 0.15 | 0.11 |
| opportunities of refinancing at customer funds, change past 3 months | 0.02 | -0.20 | -0.37 | -0.48 | -0.45 | -0.24 | -0.05 |
| opportunities of refinancing at other funds, change past 3 months | 0.50 | 0.39 | 0.32 | 0.17 | -0.05 | -0.20 | -0.34 |
| prices, expected change next 3 months | -0.17 | -0.22 | -0.38 | -0.32 | -0.34 | -0.25 | 0.08 |
| profit situation, change past 3 months | -0.07 | -0.23 | -0.15 | -0.09 | 0.01 | 0.18 | 0.15 |
| profit situation, expected change next 3 months | -0.24 | -0.01 | 0.15 | 0.27 | 0.25 | 0.15 | 0.14 |
| technical capacities, assessment | 0.04 | 0.22 | 0.09 | -0.02 | -0.18 | -0.21 | -0.19 |
| volume of assets under management, change past 3 months | -0.29 | -0.14 | 0.06 | 0.16 | 0.21 | 0.26 | 0.19 |
| volume of authorized loans, change past 3 months | -0.37 | -0.19 | 0.00 | 0.22 | 0.47 | 0.51 | 0.31 |
| volume of security transactions for clients, change past 3 months | -0.37 | -0.38 | -0.21 | -0.05 | 0.10 | 0.23 | 0.17 |

Table 27: Cross-Correlations with 5-year Swiss Zero Bond Yield Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|-------------|--------------|--------------|-------------|-------------|
| business situation, assessment | 0.14 | 0.27 | 0.37 | 0.37 | 0.23 | 0.23 | 0.14 |
| business situation, change past 3 months | 0.36 | 0.52 | 0.61 | 0.55 | 0.35 | 0.18 | 0.06 |
| business situation, expected change next 6 months | -0.17 | 0.22 | 0.46 | 0.48 | 0.30 | 0.10 | 0.04 |
| competitive position on domestic market, change past 3 months | -0.07 | 0.11 | 0.17 | 0.32 | 0.36 | 0.44 | 0.34 |
| competitive position, change past 3 months | -0.04 | 0.20 | 0.31 | 0.45 | 0.55 | 0.62 | 0.41 |
| credit rating domestic clients, change past 3 months | -0.13 | 0.17 | 0.44 | 0.56 | 0.60 | 0.48 | 0.31 |
| credit rating foreign clients, change past 3 months | 0.12 | 0.39 | 0.54 | 0.54 | 0.38 | 0.13 | -0.02 |
| demand, change past 3 months | -0.04 | 0.03 | 0.13 | 0.14 | 0.19 | 0.29 | 0.31 |
| demand, expected change next 3 months | -0.15 | 0.13 | 0.42 | 0.52 | 0.47 | 0.37 | 0.24 |
| loans to domestic clients, expected change next 3 months | -0.08 | 0.18 | 0.39 | 0.45 | 0.47 | 0.39 | 0.26 |
| loans to foreign clients, expected change next 3 months | 0.10 | 0.31 | 0.50 | 0.54 | 0.36 | 0.22 | 0.12 |
| no obstacles | -0.33 | -0.20 | 0.01 | 0.17 | 0.19 | 0.22 | 0.05 |
| number of employees, assessment | 0.61 | 0.22 | -0.12 | -0.37 | -0.38 | -0.22 | -0.16 |
| number of employees, change past 3 months | -0.01 | 0.11 | 0.18 | 0.23 | 0.18 | 0.11 | 0.07 |
| number of employees, expected change next 3 months | -0.09 | 0.16 | 0.31 | 0.37 | 0.27 | 0.22 | 0.07 |
| obstacle financial constraints | -0.06 | 0.09 | 0.24 | 0.37 | 0.42 | 0.29 | 0.23 |
| obstacle insufficient demand | 0.15 | -0.03 | -0.14 | -0.24 | -0.21 | -0.17 | -0.08 |
| obstacle other factors | 0.34 | 0.16 | 0.00 | -0.05 | 0.00 | -0.07 | 0.03 |
| obstacle shortage of labour | 0.43 | 0.60 | 0.52 | 0.36 | 0.20 | 0.07 | 0.01 |
| obstacle shortage of space and/or equipment | 0.05 | 0.25 | 0.36 | 0.35 | 0.24 | 0.13 | -0.01 |
| operating expenses, change past 3 months | 0.05 | 0.10 | 0.12 | 0.22 | 0.15 | 0.10 | 0.10 |
| operating expenses, expected change next 3 months | 0.09 | 0.12 | 0.18 | 0.23 | 0.06 | -0.04 | 0.07 |
| operating income, change past 3 months | -0.01 | 0.07 | 0.25 | 0.45 | 0.36 | 0.21 | 0.12 |
| operating income, expected change next 3 months | -0.34 | 0.01 | 0.35 | 0.54 | 0.54 | 0.40 | 0.23 |
| opportunities of refinancing at customer funds, change past 3 months | -0.06 | -0.22 | -0.37 | -0.40 | -0.33 | -0.12 | 0.11 |
| opportunities of refinancing at other funds, change past 3 months | 0.28 | 0.33 | 0.37 | 0.26 | 0.01 | -0.20 | -0.30 |
| prices, expected change next 3 months | -0.31 | -0.13 | -0.07 | 0.06 | 0.03 | -0.05 | -0.01 |
| profit situation, change past 3 months | 0.02 | 0.14 | 0.38 | 0.45 | 0.40 | 0.31 | 0.19 |
| profit situation, expected change next 3 months | -0.44 | -0.07 | 0.27 | 0.51 | 0.56 | 0.46 | 0.36 |
| technical capacities, assessment | 0.02 | -0.03 | -0.33 | -0.50 | -0.52 | -0.33 | -0.13 |
| volume of assets under management, change past 3 months | 0.34 | 0.46 | 0.51 | 0.41 | 0.25 | 0.19 | 0.19 |
| volume of authorized loans, change past 3 months | 0.04 | 0.05 | 0.02 | 0.06 | 0.25 | 0.40 | 0.41 |
| volume of security transactions for clients, change past 3 months | -0.04 | 0.16 | 0.39 | 0.50 | 0.48 | 0.37 | 0.18 |

3.1.6 Monetary Aggregates

Table 28: Cross-Correlations with Monetary Aggregates M3 Year-on-Year

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| business situation, assessment | -0.57 | -0.52 | -0.52 | -0.52 | -0.49 | -0.50 | -0.48 |
| business situation, change past 3 months | -0.59 | -0.46 | -0.41 | -0.35 | -0.31 | -0.37 | -0.43 |
| business situation, expected change next 6 months | -0.03 | -0.01 | -0.03 | -0.08 | -0.07 | -0.03 | -0.05 |
| competitive position on domestic market, change past 3 months | -0.53 | -0.51 | -0.49 | -0.38 | -0.28 | -0.23 | -0.07 |
| competitive position, change past 3 months | -0.51 | -0.53 | -0.49 | -0.39 | -0.32 | -0.31 | -0.22 |
| credit rating domestic clients, change past 3 months | -0.36 | -0.39 | -0.28 | -0.23 | -0.07 | 0.04 | 0.10 |
| credit rating foreign clients, change past 3 months | -0.43 | -0.37 | -0.25 | -0.18 | -0.07 | -0.02 | 0.04 |
| demand, change past 3 months | -0.54 | -0.57 | -0.58 | -0.52 | -0.49 | -0.54 | -0.51 |
| demand, expected change next 3 months | -0.70 | -0.71 | -0.71 | -0.62 | -0.51 | -0.41 | -0.35 |
| loans to domestic clients, expected change next 3 months | -0.42 | -0.50 | -0.52 | -0.52 | -0.38 | -0.36 | -0.32 |
| loans to foreign clients, expected change next 3 months | -0.38 | -0.41 | -0.45 | -0.41 | -0.39 | -0.43 | -0.45 |
| no obstacles | 0.52 | 0.60 | 0.61 | 0.66 | 0.70 | 0.66 | 0.65 |
| number of employees, assessment | 0.20 | 0.30 | 0.28 | 0.27 | 0.24 | 0.12 | 0.07 |
| number of employees, change past 3 months | 0.06 | -0.05 | -0.16 | -0.28 | -0.37 | -0.45 | -0.47 |
| number of employees, expected change next 3 months | -0.03 | -0.05 | -0.09 | -0.12 | -0.11 | -0.09 | -0.05 |
| obstacle financial constraints | -0.86 | -0.90 | -0.86 | -0.82 | -0.76 | -0.67 | -0.62 |
| obstacle insufficient demand | 0.65 | 0.59 | 0.53 | 0.47 | 0.36 | 0.29 | 0.21 |
| obstacle other factors | -0.57 | -0.55 | -0.53 | -0.54 | -0.52 | -0.51 | -0.53 |
| obstacle shortage of labour | 0.06 | -0.02 | -0.09 | -0.18 | -0.25 | -0.34 | -0.43 |
| obstacle shortage of space and/or equipment | -0.47 | -0.49 | -0.57 | -0.58 | -0.47 | -0.38 | -0.28 |
| operating expenses, change past 3 months | -0.39 | -0.32 | -0.40 | -0.49 | -0.54 | -0.62 | -0.61 |
| operating expenses, expected change next 3 months | -0.06 | -0.00 | -0.09 | -0.23 | -0.25 | -0.36 | -0.45 |
| operating income, change past 3 months | -0.72 | -0.58 | -0.58 | -0.55 | -0.44 | -0.43 | -0.42 |
| operating income, expected change next 3 months | -0.27 | -0.36 | -0.43 | -0.46 | -0.48 | -0.45 | -0.38 |
| opportunities of refinancing at customer funds, change past 3 months | 0.51 | 0.56 | 0.47 | 0.41 | 0.28 | 0.20 | 0.26 |
| opportunities of refinancing at other funds, change past 3 months | -0.05 | 0.13 | 0.17 | 0.22 | 0.22 | 0.14 | 0.07 |
| prices, expected change next 3 months | -0.37 | -0.33 | -0.20 | -0.12 | -0.06 | 0.11 | 0.22 |
| profit situation, change past 3 months | -0.67 | -0.61 | -0.63 | -0.58 | -0.50 | -0.50 | -0.48 |
| profit situation, expected change next 3 months | -0.25 | -0.34 | -0.38 | -0.41 | -0.42 | -0.37 | -0.30 |
| technical capacities, assessment | 0.50 | 0.45 | 0.51 | 0.51 | 0.48 | 0.45 | 0.41 |
| volume of assets under management, change past 3 months | -0.47 | -0.28 | -0.19 | -0.16 | -0.12 | -0.13 | -0.14 |
| volume of authorized loans, change past 3 months | 0.08 | 0.05 | 0.02 | 0.05 | 0.04 | -0.06 | -0.09 |
| volume of security transactions for clients, change past 3 months | -0.76 | -0.62 | -0.49 | -0.33 | -0.22 | -0.22 | -0.19 |

3.2 Analysis on Monthly Frequency

3.2.1 Interest Rates, Exchange Rates, and Bond Yields

Table 29: Cross-Correlations with 1-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------|--------------|-------------|-------------|-------|--------------|
| business situation, assessment | -0.22 | -0.17 | -0.15 | -0.10 | -0.14 | -0.18 | -0.22 |
| business situation, change past 3 months | -0.08 | -0.03 | -0.02 | 0.03 | 0.07 | 0.07 | 0.02 |
| business situation, expected change next 6 months | 0.13 | 0.15 | 0.17 | 0.20 | 0.23 | 0.14 | 0.12 |
| demand, change past 3 months | -0.35 | -0.33 | -0.31 | -0.31 | -0.29 | -0.28 | -0.21 |
| demand, expected change next 3 months | -0.12 | -0.13 | -0.10 | -0.07 | -0.10 | -0.14 | -0.14 |
| number of employees, assessment | 0.14 | 0.12 | 0.15 | 0.12 | 0.08 | 0.07 | 0.03 |
| number of employees, change past 3 months | 0.16 | 0.21 | 0.24 | 0.29 | 0.26 | 0.18 | 0.08 |
| number of employees, expected change next 3 months | 0.10 | 0.14 | 0.18 | 0.20 | 0.16 | 0.10 | -0.00 |
| prices, expected change next 3 months | -0.25 | -0.29 | -0.29 | -0.23 | -0.17 | -0.20 | -0.26 |

Table 30: Cross-Correlations with 3-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------------|-------------|-------------|-------|--------------|
| business situation, assessment | -0.24 | -0.19 | -0.17 | -0.12 | -0.17 | -0.20 | -0.23 |
| business situation, change past 3 months | -0.08 | -0.02 | -0.00 | 0.05 | 0.09 | 0.09 | 0.05 |
| business situation, expected change next 6 months | 0.07 | 0.08 | 0.10 | 0.12 | 0.13 | 0.05 | 0.02 |
| demand, change past 3 months | -0.36 | -0.35 | -0.33 | -0.32 | -0.30 | -0.29 | -0.21 |
| demand, expected change next 3 months | -0.13 | -0.15 | -0.12 | -0.09 | -0.12 | -0.15 | -0.16 |
| number of employees, assessment | 0.17 | 0.15 | 0.19 | 0.15 | 0.12 | 0.13 | 0.11 |
| number of employees, change past 3 months | 0.12 | 0.17 | 0.20 | 0.25 | 0.21 | 0.13 | 0.04 |
| number of employees, expected change next 3 months | 0.04 | 0.08 | 0.10 | 0.11 | 0.07 | 0.01 | -0.08 |
| prices, expected change next 3 months | -0.25 | -0.29 | -0.28 | -0.21 | -0.16 | -0.20 | -0.28 |

Table 31: Cross-Correlations with 6-month CHF London Libor Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------|-------------|-------------|-------------|--------------|
| business situation, assessment | -0.25 | -0.21 | -0.18 | -0.13 | -0.17 | -0.20 | -0.22 |
| business situation, change past 3 months | -0.08 | -0.02 | 0.01 | 0.07 | 0.12 | 0.12 | 0.08 |
| business situation, expected change next 6 months | 0.05 | 0.07 | 0.08 | 0.10 | 0.11 | 0.03 | -0.01 |
| demand, change past 3 months | -0.38 | -0.36 | -0.33 | -0.31 | -0.28 | -0.28 | -0.20 |
| demand, expected change next 3 months | -0.16 | -0.17 | -0.15 | -0.11 | -0.14 | -0.17 | -0.18 |
| number of employees, assessment | 0.20 | 0.17 | 0.19 | 0.16 | 0.14 | 0.15 | 0.14 |
| number of employees, change past 3 months | 0.14 | 0.18 | 0.21 | 0.23 | 0.19 | 0.11 | 0.01 |
| number of employees, expected change next 3 months | 0.02 | 0.06 | 0.08 | 0.08 | 0.05 | -0.02 | -0.12 |
| prices, expected change next 3 months | -0.26 | -0.30 | -0.30 | -0.23 | -0.18 | -0.20 | -0.28 |

Table 32: Cross-Correlations with Savon Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|--------------|-------------|-------------|-------------|-------|
| business situation, assessment | -0.23 | -0.16 | -0.09 | -0.04 | -0.08 | -0.11 | -0.15 |
| business situation, change past 3 months | -0.09 | -0.02 | 0.01 | 0.07 | 0.10 | 0.10 | 0.06 |
| business situation, expected change next 6 months | 0.11 | 0.15 | 0.18 | 0.25 | 0.28 | 0.24 | 0.24 |
| demand, change past 3 months | -0.37 | -0.33 | -0.26 | -0.25 | -0.25 | -0.23 | -0.16 |
| demand, expected change next 3 months | -0.15 | -0.15 | -0.10 | -0.04 | -0.08 | -0.07 | -0.08 |
| number of employees, assessment | 0.18 | 0.18 | 0.21 | 0.14 | 0.12 | 0.04 | -0.03 |
| number of employees, change past 3 months | 0.13 | 0.18 | 0.24 | 0.26 | 0.25 | 0.19 | 0.12 |
| number of employees, expected change next 3 months | 0.09 | 0.14 | 0.23 | 0.25 | 0.22 | 0.18 | 0.11 |
| prices, expected change next 3 months | -0.26 | -0.30 | -0.32 | -0.23 | -0.19 | -0.19 | -0.21 |

Table 33: Cross-Correlations with CHF EUR Exchange Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------------|--------------|-------|-------|-------|-------------|
| business situation, assessment | -0.11 | -0.10 | -0.07 | 0.02 | 0.05 | 0.07 | 0.10 |
| business situation, change past 3 months | 0.14 | 0.17 | 0.22 | 0.30 | 0.36 | 0.41 | 0.42 |
| business situation, expected change next 6 months | -0.36 | -0.35 | -0.33 | -0.26 | -0.25 | -0.25 | -0.19 |
| demand, change past 3 months | -0.24 | -0.23 | -0.15 | -0.07 | -0.01 | 0.04 | 0.09 |
| demand, expected change next 3 months | -0.09 | -0.07 | -0.00 | 0.08 | 0.09 | 0.13 | 0.17 |
| number of employees, assessment | 0.37 | 0.40 | 0.38 | 0.30 | 0.30 | 0.29 | 0.29 |
| number of employees, change past 3 months | -0.13 | -0.09 | -0.04 | -0.03 | -0.07 | -0.09 | -0.13 |
| number of employees, expected change next 3 months | -0.28 | -0.25 | -0.19 | -0.14 | -0.14 | -0.13 | -0.13 |
| prices, expected change next 3 months | -0.09 | -0.12 | -0.16 | -0.10 | -0.04 | -0.08 | -0.12 |

Table 34: Cross-Correlations with CHF USD Exchange Rate Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|-------|-------|-------|-------|-------------|-------------|
| business situation, assessment | -0.09 | -0.07 | -0.01 | 0.13 | 0.27 | 0.36 | 0.38 |
| business situation, change past 3 months | -0.05 | -0.03 | 0.02 | 0.12 | 0.27 | 0.41 | 0.47 |
| business situation, expected change next 6 months | -0.58 | -0.54 | -0.46 | -0.31 | -0.22 | -0.08 | 0.05 |
| demand, change past 3 months | 0.02 | -0.00 | 0.04 | 0.13 | 0.24 | 0.30 | 0.27 |
| demand, expected change next 3 months | -0.20 | -0.20 | -0.12 | -0.03 | 0.05 | 0.16 | 0.23 |
| number of employees, assessment | 0.54 | 0.54 | 0.48 | 0.41 | 0.36 | 0.25 | 0.17 |
| number of employees, change past 3 months | -0.29 | -0.28 | -0.26 | -0.21 | -0.15 | -0.09 | -0.08 |
| number of employees, expected change next 3 months | -0.43 | -0.39 | -0.30 | -0.23 | -0.13 | -0.02 | -0.02 |
| prices, expected change next 3 months | -0.05 | -0.05 | -0.03 | 0.02 | 0.08 | 0.09 | 0.16 |

Table 35: Cross-Correlations with 1-year Swiss Zero Bond Yield Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|--------------|--------------|-------------|-------------|-------------|-------|-------|
| business situation, assessment | -0.08 | -0.04 | -0.00 | 0.03 | 0.01 | -0.02 | -0.01 |
| business situation, change past 3 months | 0.06 | 0.10 | 0.14 | 0.19 | 0.22 | 0.20 | 0.16 |
| business situation, expected change next 6 months | 0.18 | 0.25 | 0.29 | 0.36 | 0.38 | 0.33 | 0.31 |
| demand, change past 3 months | -0.25 | -0.22 | -0.20 | -0.16 | -0.16 | -0.15 | -0.09 |
| demand, expected change next 3 months | -0.04 | -0.03 | 0.02 | 0.06 | 0.05 | 0.03 | 0.03 |
| number of employees, assessment | 0.14 | 0.11 | 0.09 | 0.03 | -0.01 | -0.04 | -0.07 |
| number of employees, change past 3 months | 0.25 | 0.28 | 0.32 | 0.34 | 0.32 | 0.27 | 0.20 |
| number of employees, expected change next 3 months | 0.18 | 0.23 | 0.24 | 0.24 | 0.24 | 0.21 | 0.14 |
| prices, expected change next 3 months | -0.29 | -0.29 | -0.28 | -0.22 | -0.18 | -0.23 | -0.27 |

Table 36: Cross-Correlations with 5-year Swiss Zero Bond Yield Year-on-Year Difference

| Question | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|--|-------------|-------------|-------|-------|--------------|-------------|-------------|
| business situation, assessment | 0.32 | 0.34 | 0.33 | 0.33 | 0.29 | 0.24 | 0.19 |
| business situation, change past 3 months | 0.55 | 0.53 | 0.48 | 0.47 | 0.43 | 0.36 | 0.27 |
| business situation, expected change next 6 months | 0.43 | 0.44 | 0.43 | 0.40 | 0.37 | 0.30 | 0.21 |
| demand, change past 3 months | 0.07 | 0.08 | 0.08 | 0.07 | 0.07 | 0.07 | 0.12 |
| demand, expected change next 3 months | 0.38 | 0.42 | 0.45 | 0.45 | 0.46 | 0.41 | 0.38 |
| number of employees, assessment | -0.09 | -0.21 | -0.28 | -0.31 | -0.35 | -0.33 | -0.30 |
| number of employees, change past 3 months | 0.13 | 0.17 | 0.19 | 0.22 | 0.23 | 0.19 | 0.17 |
| number of employees, expected change next 3 months | 0.27 | 0.31 | 0.28 | 0.29 | 0.31 | 0.24 | 0.19 |
| prices, expected change next 3 months | 0.04 | 0.01 | -0.03 | 0.02 | 0.07 | 0.10 | 0.02 |

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