

CATCH ANALYTICS



CATCH

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AUGMENTED ANALYTICS

CRIF has developed an analytics suite calculating structured insights from Open Banking unstructured data. Details and information coming from the accounts connected can be used for a synthetic evaluation of the applicant (retail or corporate), provided by CATCH analytics packages.

Packages Suite

Base		Period definitions, date ranges, warnings, connections and accounts indicators, significance of accounts.	 B2C	 B2B
Identity		Open banking subject's identity verification. Data Check between applicant info and account ownership.	 B2C	
Credit Score		Creditworthiness score based on access to account information	 B2C	 B2B
Risk		Open banking risk indicators, negative behavior or habits associated to the applicant.	 B2C	 B2B
Cash Flow		Period analysis of income and expenses, with specific insights and categorization added value.	 B2C	 B2B
Marketing		Lifestyle indicators to evaluate subject's spending behavior and give possible insights for marketing actions	 B2C	
XS2A Statement		Open banking adapted view of the cash flow statement for SMEs and Companies		 B2B



CATCH Analytics packages exploits the power of CRIF proprietary ML algorithm of categorization engine. When present, this symbol indicates that a category is considered for the calculation.

Base



Technical set of KPIs, period definitions, date ranges, warnings, connections and accounts details.



B2C



B2B

Subject

KPI	Description
subjectId	Subject unique identifier.
dataPeriod	<ul style="list-style-type: none"> startDate It is the oldest day of the transactions contained in the account(s). In other words, it's the date when the period connected starts. endDate It is the newest day of the transactions contained in the account(s). In other words, it's the date when the period connected ends. daysCount Count of the days of the period. fullMonthsCount Count of the full months of the period. Only complete months in terms of days (from first to last day) are counted.
countriesCount	Count of countries related to the connected provider account(s).
providersCount	Count of provider(s) connected.
accountsCount	Count of account(s) connected.
significantAccountsCount	Count (how many) of accounts with a significanceIndex=5.
maximumSignificanceIndex	Maximum significanceIndex value among all the account connected by the subject.
balance	<ul style="list-style-type: none"> totalBalanceAmount Sum of totalBalanceAmount of all accounts connected. averageBalanceAmount Sum of averageBalanceAmount of all accounts connected. medianBalanceAmount Sum of medianBalanceAmount of all accounts connected. minimumBalanceAmount Lowest (minimum) balance amount calculated during the whole period considering all connected account(s). maximumBalanceAmount Highest (maximum) balance amount calculated during the whole period considering all connected account(s).
periodTransactionsCount	<ul style="list-style-type: none"> total Count of transactions of all connected account(s) in the whole period. income Count of incoming transactions of all connected account(s) in the whole period. expenses Count of expenses transactions of all connected account(s) in the whole period.
monthlyTransactionsCount	<ul style="list-style-type: none"> total Count of transactions of all connected account(s) per each month. income Count of incoming transactions of all connected account(s) per each month. expenses Count of expenses transactions of all connected account(s) per each month.

Connections

These indicators and KPIs are repeated for each connection of the subject. This element can contain more than one entry.

KPI	Description
connectionId	Connection unique identifier.
dataPeriod	
startDate	The date of the first transaction of this connection, considering all its accounts.
endDate	The date of the latest transaction of this connection, considering all its accounts.
daysCount	Count of the days of the period.
fullMonthsCount	Count of the full months of the period. Only complete months in terms of days (from first to last day) are counted.
accountsCount	Count of account(s) connected.
significantAccountsCount	Count (how many) of accounts with a significanceIndex=5.
maximumSignificanceIndex	Maximum significanceIndex value among all the account connected per connection.
balance	
totalBalanceAmount	Sum of totalBalanceAmount of all accounts connected.
averageBalanceAmount	Sum of averageBalanceAmount of all accounts connected.
medianBalanceAmount	Sum of medianBalanceAmount of all accounts connected.
minimumBalanceAmount	Lowest (minimum) balance amount calculated during the whole period considering all the account of the related connectionId.
maximumBalanceAmount	Highest (maximum) balance amount calculated during the whole period considering all the account of the related connectionId.
periodTransactionsCount	
total	Count of transactions of all connected account(s) in the whole period.
income	Count of incoming transactions of all connected account(s) in the whole period.
expenses	Count of expenses transactions of all connected account(s) in the whole period.
monthlyTransactionsCount	
total	Monthly average count of transactions of all connected account(s) per each month.
income	Monthly average count of incoming transactions of all connected account(s) per each month.
expenses	Monthly average count of expenses transactions of all connected account(s) per each month.

Accounts

These indicators and KPIs are repeated for each account of the connections. This element can contain more than one entry.

KPI	Description
accountId	Account unique identifier.
warnings	

	withoutTransactions	Indicates that the account does not have any transaction in the data downloaded from the provider.
dataPeriod	<ul style="list-style-type: none"> startDate endDate daysCount fullMonthsCount 	<p>The date of the first transaction of this account.</p> <p>The date of the latest transaction of this account.</p> <p>Count of the days of the period.</p> <p>Number of months between the startReferenceDate and endReferenceDate excluding the first month and the last month.</p>
significanceIndex		Index that classifies current accounts on a scale from 0 (not calculable due to insufficient historical depth) to 5 (high significance) according to the level of informative significance of the accounts. For further details see the paragraph Significance index in the <i>Annex</i> section of this document.
newestTransactionDays		Count of days since newest transaction. The result is an integer number, in days.
oldestTransactionDays		Count of days since oldest transaction. The result is an integer number, in days.
overdraft	<ul style="list-style-type: none"> balanceBelowZeroDays averageBalanceBelowZeroAmount longestIntervalBelowZeroDays daysBelowZeroOverPeriodRatio 	<p>Amount of money that a subject within a bank account owes to the bank.</p> <p>This KPI does not take into consideration credit line, if any. It gives insights about balance below zero in terms of days count, amount and interval.</p> <p>Count of days with balance amount below zero.</p> <p>Average of balance amount for the days with amount below zero.</p> <p>Longest interval of time (days count) with balance amount below zero.</p> <p>Ratio between days with balance amount below zero and the count of days of the entire period of this account.</p>
balance	<ul style="list-style-type: none"> totalBalanceAmount averageBalanceAmount medianBalanceAmount minimumBalanceAmount maximumBalanceAmount 	<p>Total booked balance amount calculated at the endReferenceDate.</p> <p>Average of balance amount calculated at the endReferenceDate, on daily basis, considering the whole period.</p> <p>Median of balance amount calculated at the endReferenceDate, on daily basis, considering the whole period.</p> <p>Lowest (minimum) balance amount calculated during the whole period considering the related accountId, on daily basis.</p> <p>Highest (maximum) balance amount calculated during the whole period considering the related accountId, on daily basis.</p>
periodTransactionsCount	<ul style="list-style-type: none"> total income expenses 	<p>Count of transactions of the connected account in the whole period.</p> <p>Count of incoming transactions of the connected account in the whole period.</p> <p>Count of expenses transactions of the connected account in the whole period.</p>
monthlyTransactionsCount	<ul style="list-style-type: none"> total 	Monthly average count of transactions of the connected account per each month.

income

Monthly average count of incoming transactions of the connected account per each month.

expenses

Monthly average count of expenses transactions of the connected account per each month

Identity



Open banking subject's identity verification. Data Check between applicant info and account ownership.



KPI

soleTrader



Description

Consumer: account connected possibly belongs to an individual company (sole trader, freelancer, etc...) if occurring at least 3 transactions with a relevant amount of: IN_14, LO_02, OO_02, OO_07, OO_08, OO_12, OO_14, RE_01, RE_12, RE_13, RE_14, RE_22, in the whole period. Relevant transactions considered are not less than 100€ or equivalent amount in requested currency. It is a flag that, if "true", indicates that the account owner has "high possibility" to be a sole trader.

Business: not calculated.

Credit Score



Creditworthiness score based on access to account information



KPI	Description
score	It is an integer number which expresses a measure of the subject predictive credit risk, by aggregating the information contained in the accounts available. The lower the score the higher the credit risk. The score assumes values between 321 and 694. Only the account with the highest significance index is considered. If there are more than one with the same significanceIndex, then the one with lowest score is selected. For further details see Annex section of this document.
tranche	Tranche of risk associated to the score.
area	Both consumer and business segments can be aggregated into 3 risk areas depending on the tranche.
factors	Score factors are data with synthetic description which influenced the assessment of the credit score. The most relevant factors (always three) will be displayed when the score is calculated.
defaultProbability	It is the one-year probability of default (PD) reflecting the subject ability to pay back its obligations.

Overdraft

These indicators and KPIs are repeated for each accounts of the subject. This element can contain more than one entry.

KPI	Description
accountId	Account unique identifier
score	It is an integer number which expresses a measure of the predictive risk of overdraft of each account by considering the transactions and the assigned categories.
tranche	Tranche of risk associated to the overdraft score of this account.
factors	The factors that influenced the evaluation of the overdraft account score. The output may include between 1 to 3 factors.

Risk




Open banking risk indicators, negative behavior or habits associated to the applicant.



Each KPI, unless otherwise specified, returns the following 4 indicators:











- **periodTotalTransactionsAmount:** sum of all the transactions amount in the whole period
- **periodTotalTransactionsCount:** count of the number of transactions in the whole period
- **monthlyAverageTransactionsAmount:** monthly average amount of all the transactions in the whole period
- **monthlyAverageTransactionsCount:** monthly average count (expressed in number) of all the transactions in the whole period

Where specified in KPI column, in addition to the four indicators described above also some further indicators could be returned.

KPI		Description
alimonyPayment		Consumer: analysis of transactions recognized by categorization engine with category FA_07. Business: not calculated.
bailiff		Consumer: analysis of transactions recognized by categorization engine with category OO_14. Business: not calculated.
penalties		Consumer: not calculated. Business: analysis of transactions recognized by categorization engine with category FO_05 and FO_09.
consumerRelated		Consumer: not calculated. Business: analysis of transactions recognized by categorization engine with category CR_*.
collectionNotification		Consumer: income transactions categorized as RE_26 related to collection agency, usually it's a very low amount, to notify the subject and remind that there is an open payment. Business: same as consumer but considering transactions categorized as RE_19. For this KPI only the following indicators are calculated: <ul style="list-style-type: none"> ▪ periodTotalTransactionsCount ▪ monthlyAverageTransactionsCount
garnishment		Consumer: income transaction categorized as RE_24 related to garnishment reimbursement due to the presence of a P-account. A P-account is a legal protection against garnishments which can be applied to any account type, and in case of an active garnishment there's normally a monthly allowance amount (this amount can be different for each bank and country). This kpi might not be available in every country. Business: same as consumer but considering transactions categorized as RE_18. For this KPI only the following indicators are calculated: <ul style="list-style-type: none"> ▪ periodTotalTransactionsCount ▪ monthlyAverageTransactionsCount



Indebtedness

List of indebtedness related transactions and kpis.

KPI		Description
cardInstalment		Consumer: analysis of transactions recognized by categorization engine with category LO_01 Business: not calculated
leasing		Consumer: analysis of transactions recognized by categorization engine with category LO_02 Business: same as consumer but considering transactions categorized as LE_02
loanInstalment		Consumer: analysis of transactions recognized by categorization engine with category LO_03 Business: same as consumer but considering transactions categorized as LE_03
mortgageInstalment		Consumer: analysis of transactions recognized by categorization engine with category LO_04 Business: same as consumer but considering transactions categorized as LE_04
interest		Consumer: analysis of transactions recognized by categorization engine with category LO_07 Business: not calculated
debtCollection		Consumer: analysis of transactions recognized by categorization engine with category LO_08 Business: same as consumer but considering transactions categorized as LE_13
overdraft		Consumer: not calculated Business: analysis of transactions recognized by categorization engine with category LE_10
equity		Consumer: not calculated Business: analysis of transactions recognized by categorization engine with category LE_12
total		Consumer: analysis of transactions recognized by categorization engine with categories present in this indebtedness section. Business: same as consumer
incomeRatio		Consumer: subject indebtedness index expressed as ratio between monthly expenses for loans LO_* and monthly income Business: same as consumer but considering transactions categorized as LE_* and monthly income


Cash


List of cash related transactions and kpis.

KPI		Description
deposit		Consumer: analysis of transactions recognized by categorization engine with category RE_15
		Business: same as consumer but considering transactions categorized as RE_07
	<ul style="list-style-type: none"> incomeRatio regularity 	<p>Ratio between total amount of cash deposit and total amount of income in the whole period.</p> <p>This KPI expresses whether these transactions are regular (considering only full months in the period). Float is an interval [0,1], where 1 represents perfect regularity (which means there's a cash deposit transaction every month).It is the ratio between total months with at least one deposit transaction and the count of full months.</p>
withdrawal		Consumer: analysis of transactions recognized by categorization engine with category OO_01
		Business: same as consumer but considering transactions categorized as FO_07
	<ul style="list-style-type: none"> expensesRatio incomeRatio regularity 	<p>Ratio between total amount of cash withdrawals and total amount of expenses in the period</p> <p>Ratio between total amount of cash withdrawals and total amount of income in the period.</p> <p>This KPI expresses whether these transactions are regular (considering only full months in the period). Float is an interval [0,1], where 1 represents perfect regularity (which means there's a cash withdrawal transaction every month). It is the ratio between total months with at least one withdrawal transaction and the count of full months.</p>

Gambling and games



List of gambling and online games related transactions and kpis.

KPI		Description
gambling		Consumer: analysis of the negative transactions recognized by categorization engine with category HF_03
		Business: not calculated
	<ul style="list-style-type: none"> expensesRatio incomeRatio regularity 	<p>Ratio between total amount of cash gambling expenses and total amount of expenses in the period.</p> <p>Ratio between total amount of gambling income transactions and total amount of income in the period.</p> <p>Average weighted regularity of gambling expenses of the whole period connected. It's calculated as ratio between all the months with at least 1 gambling expense and the total number of months. Float is an interval [0,1], where 1 represents perfect regularity (which means there's a transaction every month).</p>

<p>onlineGames</p> 	<p>expensesRatio</p> <p>incomeRatio</p> <p>regularity</p>	<p>Consumer: analysis of the negative transactions recognized by categorization engine with category HF_10</p> <p>Business: not calculated</p> <p>Ratio between total amount of online games expenses and total amount of expenses in the period.</p> <p>Ratio between total amount of online games income transactions and total amount of income in the period.</p> <p>Average weighted regularity of online games expenses of the whole period connected. It's calculated as ratio between all the months with at least 1 online games expense and the total number of months. Float is an interval [0,1], where 1 represents perfect regularity (which means there's an transaction every month).</p>
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Unsuccessful Direct Debit

List of unsuccessful direct debits related transactions (e.g. when the account balance is not enough for the direct debit to be debited).

KPI	Description
<p>chargeback</p> 	<p>Consumer: income transaction categorized as RE_23 credited back (chargeback) after the direct debit couldn't take place due to low balance.</p> <p>Business: same as consumer but considering transactions categorized as RE_17</p>
<p>fee</p> 	<p>Consumer: expenses transaction categorized as OO_15 (fee) debited due to the fact that a direct debit couldn't take place, due to low balance.</p> <p>Business: same as consumer but considering transactions categorized as OE_06</p> <p>For this KPI only the following indicators are calculated:</p> <ul style="list-style-type: none"> periodTotalTransactionsCount monthlyAverageTransactionsCount

Cash Flow




Period analysis of income and expenses, with specific insights and categorization added value.



Period analysis




Cashflow analysis of income and expenses of the whole period connected.

KPI	Description
incomeAmount	
total	Total income amount in the whole period.
average	Average income amount in the whole period.
median	Median income amount in the whole period.
minimum	Minimum monthly income recorded in the whole period.
maximum	Maximum monthly income recorded in the whole period.
consistency	Standard deviation of the monthly income amount in the whole period.
expensesAmount	
total	Total expenses amount in the whole period.
average	Average expenses amount in the whole period.
median	Median expenses amount in the whole period.
minimum	Minimum monthly expenses recorded in the whole period.
maximum	Maximum monthly expenses recorded in the whole period.
consistency	Standard deviation of the monthly expenses amounts in the whole period.
savingAmount	
total	Disposable amount calculated as sum of total income and total expenses of the period in analysis.
average	Average saving amount in the whole period.
median	Median saving amount in the whole period.
savingRatio	Ratio between savingAmount and total income of the whole period in analysis. This kpi represents how much (in %) the subject is saving compared to the income.
savingAdvancedAmount 	Advanced disposable amount calculated as sum of relevant income and characteristic expenses of the whole period in analysis.
incomeExpensesRatio	Ratio between total income and total expenses of the whole period in analysis.
monthsWithNegativeSavingCount	Count of months (number) with a negative savingAmount.

Insights

List of added value insights related to cashflow transactions with the aim to give a better comprehension of the subject's accounts. Insight section is relevant both for consumer and business but some insights, where specified, are calculated for one purpose only.

KPI	Description
bestAccountDirectDebit	<p>Consumer: suggested best account for a direct debit, with specification of the day of the month, and the maximum amount applicable as direct debit. Since the current month could be incomplete it is excluded from the calculation rule, only full months are considered in the calculation.</p> <p>Business: same as consumer.</p>
<ul style="list-style-type: none"> accountId day amount 	<p>Account unique identifier.</p> <p>Day of the month identified as the best day for direct debit.</p> <p>Maximum amount applicable as direct debit for the day identified.</p>
savingRunwayMonths	<p>Consumer: number of months until the subject runs out of money according to the current expenses trend. This kpi is calculated only in case the subject has a positive current balance and a negative saving amount.</p> <p>Business: same as consumer.</p>
expensesRunwayMonths	<p>Number of months which the subject can cover the average expenses with the current balance. This kpi is not calculated only if subject has no expenses at all.</p> <p>Business: same as consumer.</p>
currentMonth	<p>Current month is the month of the input endReferenceDate. The default date is today that is the day in which Catch Analytics method is called. Current month might have incomplete data.</p>
<ul style="list-style-type: none"> Month income <ul style="list-style-type: none"> expectedAmount actualAmount expenses <ul style="list-style-type: none"> expectedAmount actualAmount saving <ul style="list-style-type: none"> expectedAmount actualAmount 	<p>The current month analysed.</p> <p>Average income amount expected in the current month.</p> <p>Total income amount at the date of the input reference date.</p> <p>Average expenses amount expected in the current month.</p> <p>Total expenses amount at the date of the input reference date.</p> <p>Average saving amount expected in the current month.</p> <p>Total saving amount at the date of the input reference date.</p>
decadeHigherExpenses	<p>Consumer: not calculated.</p> <p>Business: decade (1st, 2nd, 3rd) of the month in which the highest outflow recurs. The output is a number that indicates the decade, between 1 and 3. Since the current month could be incomplete it is excluded from the calculation rule, only full months are considered in the calculation.</p>

forecast		The forecast is the cashflow scenarios provision of inflow, outflow and savings in the future 3 months. This element contains three entry for each forecasted month.
	<ul style="list-style-type: none"> month incomeExpectedAmount expensesExpectedAmount savingExpectedAmount balanceExpectedAmount 	<p>Month analysed.</p> <p>Income amount expected in the forecasted month.</p> <p>Expenses amount expected in the forecasted month.</p> <p>Saving amount expected in the forecasted month.</p> <p>Balance amount expected in the forecasted month.</p>
monthlyAffordableAmount		<p>This indicator can be used to support the subject affordability assessment.</p> <p>It calculates the predicted net monthly average amount considering the available liquidity, relevant revenues, cashflow and financial commitments.</p> <p>A financial commitment is an agreement to meet certain expenses in the future. It can include rent, utilities, insurance, loan repayments.</p> <p>This KPI is calculated only if the subject has at least a significant account.</p>
incomeShockEvents		<p>Whether the salary (RE_05) perceived in one month deviates significantly from the average. This KPI is calculated only on full months.</p> <p>Business: not calculated</p> <ul style="list-style-type: none"> eventsCount Count of rise and drop events rise <ul style="list-style-type: none"> monthsSinceMostRecentShock Number of month since the most recent rise. monthInShock List of months that recorded a rise. higherThreshold Amount above which we define an event as a rise. drop <ul style="list-style-type: none"> monthsSinceMostRecentShock Number of month since the most recent drop. monthInShock List of months that recorded a drop. lowerThreshold Amount below which we define an event as a drop.

Marketing

























Lifestyle indicators to evaluate subject's spending behavior and give possible insights for marketing actions.



Each KPI, except for “flags” fields, returns the following indicators:

- **monthlyAverageTransactionsAmount:** monthly average amount of all the transactions in the whole period
- **monthlyAverageTransactionsCount:** monthly average count (expressed in number) of all the transactions in the whole period

KPI		Description
child	 <ul style="list-style-type: none"> income expenses 	Indicators to intercept whether the subject evaluated has transactions related to children.
car		Indicators to intercept whether the subject evaluated has transactions related to cars.
house	 <ul style="list-style-type: none"> houseLiving tenant landlord 	Indicators to intercept whether the subject evaluated has transactions related to house (considering also bills, subscriptions, building renovations, furnishings and home accessories, house insurance, house purchasing). The tenant is a person who occupies land or property rented from a landlord. The landlord is a person who rents out land, building, or accommodation.
pet		Indicator to intercept whether the subject evaluated has transactions related to pets.
creditCard		Indicator to intercept whether the subject evaluated has transactions related to credit cards.
loan		Indicator to intercept whether the subject evaluated has transactions related to loans.
fashion		Indicator to intercept whether the subject evaluated has transactions related to fashion, clothes, luxury goods, wellness, beauty and personal care.
sport		Indicators to intercept whether the subject evaluated has transactions related to sports activities and sporting goods.
traveling		Indicators to intercept whether the subject evaluated has transactions related to traveling (flights, travel agency, holiday packages etc..).
gambling	 <ul style="list-style-type: none"> income expenses 	Indicators to intercept whether the subject evaluated has transactions related to gambling.
culture		Indicators to intercept whether the subject evaluated has transactions related to culture (books, museums etc..).
liquor		Indicators to intercept whether the subject evaluated has transactions related to booze and liquor shops.
tobacco		Indicators to intercept whether the subject evaluated has transactions related to cigarettes and tobacco shops.
digital		Indicators to intercept whether the subject evaluated has transactions related to digital technologies (considering also music bills and online games, ecommerce and electronics),
telco		Indicators to intercept whether the subject evaluated has transactions related to telcos.

socialLife			Indicators to intercept whether the subject evaluated has transactions related to pubs, restaurants, bars, clubs etc...
health			Indicators to intercept whether the subject evaluated has transactions related to health.
insuranceAndPrevention			Indicators to intercept whether the subject evaluated has transactions related to insurance.
investmentAndTrading		income expenses	Indicators to intercept whether the subject evaluated has transactions related to investments and trading.
tax			Indicators to intercept whether the subject evaluated has transactions related to taxes.
flagSalary			Flag to intercept whether the subject evaluated has salary or not.
flagPension			Flag to intercept whether the subject evaluated receives a pension or not.
flagSocialWelfare			Flag to intercept whether the subject evaluated receives social welfare programs.




XS2A Statement



Open banking adapted view of the cash flow statement for SMEs and Companies



Inflows and outflows are grouped in: operations, investing, financing and other, representing an open banking version of the cash flow statement filed by SMEs and Companies.

KPI	Description
operations 	Cash flows from (used in) operating activities.
revenueFromSalesAmount	Total amount of transactions related to revenues from sales, direct sales to customers.
otherRevenuesAmount	Total amount of transactions related to other revenues.
paymentsToSuppliersAmount	Total amount of transactions related to suppliers payments.
paymentsToEmployeesAmount	Total amount of transactions related to employees payments.
incomeTaxesAmount	Total amount of transactions related to income taxes payments.
interestAndDividendsAmount	Total amount of transactions related to interests and dividends inflows.
totalAmount	Total amount of the operations section.
investing 	Cash flows from (used in) investing activities.
tangibleAssetsInAmount	Total amount of transactions related to tangible assets inflows.
tangibleAssetsOutAmount	Total amount of transactions related to tangible assets outflows.
intangibleAssetsInAmount	Total amount of transactions related to intangible assets inflows.
intangibleAssetsOutAmount	Total amount of transactions related to intangible assets outflows.
financialAssetsInAmount	Total amount of transactions related to financial assets inflows.
financialAssetsOutAmount	Total amount of transactions related to financial assets outflows.
totalAmount	Total amount of the investing section.
financing 	Cash flows from (used in) financing activities.
borrowingsAmount	Total amount of transactions related to borrowings inflows (incoming loans, mortgages, leasings etc..).
paymentOfDebtsAmount	Total amount of transactions related to debts payments (outgoing loans, mortgages, leasings etc..).
issueOfShareCapitalAmount	Total amount of transactions related to equity and share capital inflows.
paymentOfDividendsAmount	Total amount of transactions related to equity and share capital outflows and dividends payments.
totalAmount	Total amount of the financing section.

other	<div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 10px;">{</div> <div style="margin-right: 10px;">inflowsAmount</div> </div> <div style="margin-top: 10px;"> <div style="font-size: 3em; margin-right: 10px;">}</div> <div>outflowsAmount</div> </div>	<p>All the categories not used in other section.</p> <p>Total amount of inflows transactions not used in any other section.</p> <p>Total amount of outflows transactions not used in any other section.</p>
initialBalance		This the balance at the start date of the account(s) connected.
finalBalance		This the balance at the end date of the account(s) connected.
netAmount		It is the sum of the initialBalance and all the transactions amount, considering all account(s) connected.

Annex

NEOS Score

The NEOS Score is a creditworthiness score based on current account information and on the categorization of the banking transactions' descriptions performed by CRIF proprietary algorithms.

The NEOS Score provides a three-digit score as output which expresses the probability that the subject will default. The lower the score, the higher the probability of default. The probability of default (PD) reflects the subject ability to pay back its obligations during the following twelve months.

The NEOS Score benefit from the CRIF classifier, an advanced machine learning tool for categorizing banking transactions.

The **NEOS Score 2.0** has been developed on a representative pool of data of more than 200k account holders and it is highly effective when used in conjunction with the existing scores in the CRIF product portfolio.

It is an advanced and powerful indicator which leverages on wider current account information, including data about granted credit line (if any) and categorized transactional data.

Since the Score 2.0 is computed at account holder level, the exclusion rules are effective if:

- There are not transactions older than 60 days or there are not transactions within the recent 30 days
- Balance account is missing

According to the adopted target event definition, an account holder is defined as “*bad*” if at least one of the following conditions are verified:

- negative notifications about credit lines (e.g. write-off)
- instalment products: 3 overdue or unpaid instalments
- non-instalment products: exceeded limit of more than 10% for 90 or more consecutive days for an amount greater than €100

The Score 2.0 is an effective tool to support all risk management activities: pricing definition, risk mitigation, credit fair value and all activities relating to Institute's risk appetite definition.

Score factors – Score version 2.0.0

Consumer

Code	Description
4001	Average balance over the last 30 days cannot be calculated
4002	Very low average balance over the last 30 days
4003	Low average balance over the last 30 days
4004	Medium average balance over the last 30 days
4005	High average balance over the last 30 days
4006	Very high average balance over the last 30 days
4007	No incomes found
4008	Very high amount inbound tickets with more occurrences per month
4009	High amount inbound tickets
4010	Average amount inbound tickets
4011	Low amount inbound tickets
4012	Very low amount inbound tickets with low frequency
4013	Percentage of days with negative balance over the last quarter cannot be calculated
4014	Low percentage of days with negative balance over the last quarter
4015	Medium percentage of days with negative balance over the last quarter
4016	High percentage of days with negative balance over the last quarter
4017	Very High percentage of days with negative balance over the last quarter
4018	The capacity to cover expenses with the current savings cannot be calculated
4019	Full capacity to cover expenses due to positive savings
4020	No capacity to cover expenses due to negative balance
4021	Limited capacity to cover expenses with the current savings trend
4022	Medium capacity to cover expenses with the current savings trend
4023	High capacity to cover expenses with the current savings trend
4024	The percentage of days with unused overdraft cannot be calculated
4025	Very low percentage of days with unused overdraft
4026	Low percentage of days with unused overdraft
4027	Medium percentage of days with unused overdraft
4028	High percentage of days with unused overdraft
4029	Balance volatility cannot be calculated
4030	Balance volatility cannot be calculated due to null current balance
4031	Very low balance volatility
4032	Low balance volatility
4033	Average balance volatility
4034	High balance volatility
4035	Very high balance volatility
4036	No cash deposits found
4037	Low ratio of cash deposits on incomes
4038	Medium ratio of cash deposits on incomes
4039	High ratio of cash deposits on incomes
4040	No incomes from financial investments found
4041	Low regularity on incomes from financial investments
4042	High regularity on incomes from financial investments
4043	No utility expenses found
4044	Low regularity on utility expenses
4045	Medium regularity on utility expenses
4046	High regularity on utility expenses
4047	No cash withdrawals found
4048	Low ratio of cash withdrawals on expenses

4049	Medium ratio of cash withdrawals on expenses
4050	High ratio of cash withdrawals on expenses
4051	Very high ratio of cash withdrawals on expenses
4052	No unpaid effects payments found
4053	Low unpaid effects payment frequency
4054	Medium unpaid effects payment frequency
4055	High unpaid effects payment frequency
4056	No tax payments found
4057	Low regularity on tax payments
4058	Medium regularity on tax payments
4059	High regularity on tax payments
4060	No wages/pensions found
4061	Low income from wages/pensions
4062	Medium income from wages/pensions
4063	High income from wages/pensions

Business

Code	Description
5001	Average balance over the last 30 days cannot be calculated
5002	Very low average balance over the last 30 days
5003	Low average balance over the last 30 days
5004	Medium average balance over the last 30 days
5005	High average balance over the last 30 days
5006	Very high average balance over the last 30 days
5007	Percentage of days with negative balance over the last quarter cannot be calculated
5008	Very low percentage of days with negative balance over the last quarter
5009	Low percentage of days with negative balance over the last quarter
5010	Medium percentage of days with negative balance over the last quarter
5011	High percentage of days with negative balance over the last quarter
5012	Very high percentage of days with negative balance over the last quarter
5013	The percentage of days with an increasing balance cannot be calculated
5014	Very low percentage of days with an increasing balance
5015	Low percentage of days with an increasing balance
5016	Medium percentage of days with an increasing balance
5017	High percentage of days with an increasing balance
5018	Very high percentage of days with an increasing balance
5019	Income over expenses ratio cannot be calculated
5020	Very low income over expenses ratio
5021	Low income over expenses ratio
5022	Medium income over expenses ratio
5023	High income over expenses ratio
5024	Very high income over expenses ratio
5025	Minimum balance trend cannot be calculated
5026	Decreasing minimum balance trend
5027	Steady minimum balance trend
5028	Slightly increasing minimum balance trend
5029	Increasing minimum balance trend
5030	Liquidity over the last 30 days cannot be calculated
5031	Very low liquidity over the last 30 days
5032	Low liquidity over the last 30 days
5033	Medium liquidity over the last 30 days
5034	High liquidity over the last 30 days
5035	Very high liquidity over the last 30 days

5036	The percentage of days exceeding the overdraft limit over the last quarter cannot be calculated
5037	Low percentage of days exceeding the overdraft limit over the last quarter
5038	Medium percentage of days exceeding the overdraft limit over the last quarter
5039	High percentage of days exceeding the overdraft limit over the last quarter
5040	The percentage of days with an increasing balance cannot be calculated
5041	Very low percentage of days with an increasing balance
5042	Low percentage of days with an increasing balance
5043	Medium percentage of days with an increasing balance
5044	High percentage of days with an increasing balance
5045	Very high percentage of days with an increasing balance
5046	The percentage of days with unused overdraft cannot be calculated
5047	Low percentage of days with unused overdraft
5048	Medium percentage of days with unused overdraft
5049	High percentage of days with unused overdraft
5050	The average balance cannot be calculated
5051	Very low average balance
5052	Low average balance
5053	Medium average balance
5054	High average balance
5055	Very high average balance
5056	No incomes from financial investments found
5057	Presence of incomes from financial investments
5058	No tax payments found
5059	Very low regularity on tax payments
5060	Low regularity on tax payments
5061	Medium regularity on tax payments
5062	High regularity on tax payments
5063	Very high regularity on tax payments
5064	No utility expenses found
5065	Low regularity on utility expenses
5066	Medium regularity on utility expenses
5067	High regularity on utility expenses
5068	No cash withdrawals found
5069	Low ratio of cash withdrawals on expenses
5070	Medium ratio of cash withdrawals on expenses
5071	High ratio of cash withdrawals on expenses
5072	Very high ratio of cash withdrawals on expenses
5073	No wage payments found
5074	Low regularity on wage payments
5075	Medium regularity on wage payments
5076	High regularity on wage payments
5077	No default interest expenses found
5078	Very low regularity on default interest expenses
5079	Low regularity on default interest expenses
5080	Medium regularity on default interest expenses
5081	High regularity on default interest expenses
5082	Very high regularity on default interest expenses

NEOS Overdraft Account Score

The **NEOS Overdraft Account Score** is the latest predictive indicator of the Catch Analytics Suite and belongs to the new generation of CRIF Scores based on payment account data and insights leveraging the categorization of banking transactions contained therein.

The Overdraft Account Score predicts at single account's level the probability of an overdraft or, in other words, the occurrence of an usage exceeding the given liquidity or the credit limit granted on the account.

Therefore, it is an effective tool to support the assessment of individuals' and companies' accounts liquidity for improved pricing definition, risk mitigation, credit fair value and all activities relating to Institute's risk appetite definition

The Overdraft Score provides a three-digit score as output, which indicates the probability of a current account overdraft. The lower the score, the higher the probability of an overdraft.

Consumer

Code	Description
6001	The percentage of days exceeding the overdraft limit over the last quarter cannot be calculated
6002	Very low percentage of days exceeding the overdraft limit over the last quarter
6003	Low percentage of days exceeding the overdraft limit over the last quarter
6004	Medium percentage of days exceeding the overdraft limit over the last quarter
6005	High percentage of days exceeding the overdraft limit over the last quarter
6006	Very high percentage of days exceeding the overdraft limit over the last quarter
6007	The capacity to cover expenses with the current savings cannot be calculated
6008	No capacity to cover expenses due to null savings
6009	Full capacity to cover expenses due to positive savings
6010	No capacity to cover expenses due to negative balance
6011	Limited capacity to cover expenses with the current savings trend
6012	Medium capacity to cover expenses with the current savings trend
6013	High capacity to cover expenses with the current savings trend
6014	Balance volatility cannot be calculated
6015	Very low balance volatility
6016	Low balance volatility
6017	Average balance volatility
6018	High balance volatility
6019	Very high balance volatility
6020	Average balance over the last 30 days cannot be calculated
6021	Very low average balance over the last 30 days
6022	Low average balance over the last 30 days
6023	Medium average balance over the last 30 days
6024	High average balance over the last 30 days
6025	Very high average balance over the last 30 days
6026	No expenses found
6027	Very low amount outbound tickets with low frequency
6028	Very low amount outbound tickets
6029	Low amount outbound tickets
6030	Average amount outbound tickets
6031	High amount outbound tickets
6032	Very high amount outbound tickets with more occurrences per month
6033	No credit card transaction found
6034	Low credit card payments frequency

6035	Medium credit card payments frequency
6036	High credit card payments frequency
6037	No revenues from pensions/salaries found
6038	Low regularity on incomes from pensions/salaries
6039	Average regularity on incomes from pensions/salaries
6040	High regularity on incomes from pensions/salaries
6041	No unpaid effects payments found
6042	Low unpaid effects payment frequency
6043	Medium unpaid effects payment frequency
6044	High unpaid effects payment frequency
6045	Very high unpaid effects payment frequency
6046	No mortgage payments found
6047	Low mortgage expenses
6048	Average mortgage expenses
6049	High mortgage expenses
6050	Very high mortgage expenses
6051	The percentage of days with unused overdraft cannot be calculated
6052	Very low percentage of days with unused overdraft
6053	Low percentage of days with unused overdraft
6054	High percentage of days with unused overdraft
6055	Very high percentage of days with unused overdraft
6101	Mostly Already Bad with negative t0 balance
6102	Mostly Already Bad with non-negative t0 balance

Business

Code	Description
7001	Balance unavailable
7002	Positive balance at t0
7003	Negative balance at t0
7004	Percentage of overdraft days in the last quarter cannot be calculated
7005	Very low percentage of overdraft days in the last quarter
7006	Low percentage of overdraft days in the last quarter
7007	Medium percentage of overdraft days in the last quarter
7008	High percentage of overdraft days in the last quarter
7009	Very high percentage of overdraft days in the last quarter
7010	Liquidity over the last 30 days cannot be calculated
7011	Very low liquidity over the last 30 days
7012	Low liquidity over the last 30 days
7013	High liquidity over the last 30 days
7014	Very high liquidity over the last 30 days
7015	Low regularity of cash deposits
7016	High regularity of cash deposits
7017	Low regularity of cash withdrawals
7018	High regularity of cash withdrawals
7019	No incomes from financial investments found
7020	Presence of incomes from financial investments
7021	Minimum balance trend cannot be calculated
7022	Minimum balance trend cannot be calculated due to null balance
7023	Decreasing minimum balance trend
7024	Steady minimum balance trend
7025	Increasing minimum balance trend
7026	No wage payments found

7027	Low regularity on wage payments
7028	High regularity on wage payments
7029	Income over expenses ratio cannot be calculated
7030	Very low income over expenses ratio
7031	Low income over expenses ratio
7032	High income over expenses ratio
7033	Very high income over expenses ratio
7101	Mostly Already Bad