

### Data analytics tests used by Councils

The tests below are used by Councils to highlight anomalies in data that indicate further investigation may be necessary. As stated in the main report, these 'red flags' may be indicative of fraud and corruption but could also highlight incidents of non-compliance with financial procedure rules and contract standing orders, or areas where spend could be consolidated.

#### **Spend and transaction data**

Analyse spend data for the following:

<b>Test</b>	<b>Rationale</b>
Duplicate payments, including across PO system and purchasing cards	Supplier may have intentionally requested payment for the same work twice
Transactions taking place at unusual times (eg. weekends or evenings)	May indicate that transactions are not part of normal business activity
Invoices and payments with unusual frequency (i.e. mid-month payment when usual timing is month-end)	May indicate that transactions are not part of normal business activity, or relate to fictitious activities or false invoicing
Invoices and payments in round number amounts	Round number amounts are unusual and may indicate fraudulent payments/invoicing
Payments to unusual recipients	Payments to unusual recipients may indicate that fraudulent payments and/or unapproved activities
Spend in excess of contract amount (above a threshold for example, 10%)	May indicate overcharging/overbilling on the part of the supplier
Spend lower than contracted amount at a given time	May indicate inability to deliver the contract due to lack of capacity/skills
Off-contract spend, i.e. spend with no contract in place	Spending without a contract may be used to conceal fraudulent payments re subject to less scrutiny than purchase order process
'Top 50' or 'top 100' suppliers in terms of spend	Analysis of the highest spend suppliers may highlight suppliers who are not expected to receive large payments
Outliers from the average invoice value	May indicate overcharging in the case of high-value invoices, or highlight multiple low-spend invoices used to conceal fraudulent payments
Early payments compared to invoice dates	May indicate a connection to the supplier by a staff member, or potential personal benefit to a staff member in exchange for the early payment
Payments made below the threshold for quotations or tenders	Contracts may be split into a larger number of lower level payments to avoid the scheme of delegation and formal tender processes

Analyse purchasing card transactions for:

<b>Test</b>	<b>Rationale</b>
Duplicate payments	May indicate use of card for non-work purposes, or payment across p-card and PO process may pay supplier twice
Increases in spend by individual	May indicate use of card for non-work purposes

Unusual merchant types	May indicate use of card for non-work purposes
Analysis of spend to individual suppliers/classes of suppliers	May indicate spend to suppliers where corporate contract exists with supplier or with an alternative supplier
Top 50 or top 100 suppliers used	Analysis of the highest spend suppliers may highlight suppliers who are not expected to receive large payments

### Data-matching

Test	Rationale
Compare payroll data to supplier data to check names, addresses and bank account details	May highlight conflicts of interests between staff and suppliers
Compare employee data to companies' house data	May highlight conflicts of interests between staff and suppliers
Verify supplier details to companies' house	May identify any fictitious suppliers
Verify VAT Registration number	To verify that companies are genuine and VAT registered (where required)
Check new supplier data against existing supplier data on set up	To check that this is not a phoenix company

### Information relating to tenders and bidders

Test	Rationale
Monitor similarities in pricing on specific tenders and over time	Similarities in pricing or differences by set percentages (i.e. 2%, 5%) may indicate collusion between suppliers
Monitor arrival times and dates of bids	Bids being submitted at the same dates and times could indicate collusion between suppliers
Analyse the successful bidders over time and contract types	Supplier rotation, market sharing, bid suppression
Monitor use of single sourcing	Monitoring single-source over time may highlight patterns of abuse of process
Monitor number of bids submitted per tender	If lower than expected or on similar tenders, this may indicate bid suppression
Similarity in bids submitted in terms of wording, spelling errors, calculation errors, fonts	This may indicate collusion between suppliers
Round numbers in complex tenders	This may indicate that bids are not genuine but have been submitted to allow another supplier to win the tender

### Supplier-related information

Test	Rationale
Change to supplier bank details	May indicate diversion of funds to a staff member or organisation connected to a staff member. Or that the Council has been victim of mandate fraud.

Reactivation of a previously dormant supplier account	May indicate the supplier account is being used to divert funds to a staff member or organisation connected to a staff member
Changes to supplier information on companies' house	Supplier may have been struck-off or director been struck-off.

**Contract-related information**

<b>Test</b>	<b>Rationale</b>
Contract extension beyond three months	May indicate overcharging or deliberate delay to increase costs of contract
Extensions being granted	May indicate overcharging or deliberate delay to increase costs of contract or indicate closeness between staff member and supplier