

Population Analysis and Verification

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Overview

Population Hierarchy

1. Taxpayer Data
2. Data Download
3. Selected for Audit
4. Grouping within Audit

Data Analysis

- A. Objectives: what is relevant to audit?
- B. Verification: is it complete?

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Taxpayer Data: What to extract?

Understand taxpayer's accounting system

- What drives sales and use tax and tax returns?
- Recognition method: cash, accrual

Which files have data relevant to this audit?

- Sales: general ledger, accounts receivable, billing, orders, delivery reports
- Purchases: general ledger, accounts payable, purchase orders, receiving reports
- Taxes: Rates, sourcing, tax decision rules

How can the data fields be linked?

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Taxpayer Data: Tax Accruals

- Can the tax accruals be traced from the data download to the tax returns?
 - Yes, taxpayer can trace
 - from invoice line items
 - then to tax accruals
 - then to monthly summary worksheet
 - then to monthly tax return and tax payment.
 - No, taxpayer makes estimated tax payments that cannot be tied to specific line items.

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Taxpayer Data: Retrieval Issues

- Archival data storage is not necessarily all the data that existed at time of transaction.
 - Data tables may have been purged of inactive or renamed customers and vendors.
- Data may exist in several different tables.
 - Some tables and codes were modified since the transaction took place.
- General ledger data may be aggregated.
 - Line items may be in A/P, A/R, or other files.
- Files contain data for many jurisdictions.
 - Auditor is interested in only a particular state or local jurisdiction.

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Download: Analysis Issues

- Verify download is complete.
- Is the data usable?
 - Are there a lot of blanks?
 - Can we link to supporting documentation?
- Do we have descriptions for the codes?
 - Accounts, cost centers, locations, etc.

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Download: Verification Alternatives

1. Review extraction procedures
 2. Drill-down table
 3. Trend analysis
 4. Reconciling to General Ledger
 5. Top-down tracing
 6. Bottom-up tracing
 7. Ratio analysis
- Apply a combination of the above.

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Download: Review Extraction Procedures

- Need help from taxpayer's IT staff to identify relevant files and fields
- Review query IT used to extract the download.
 - Range of accounts
 - Range of dates
 - Range of entities, divisions, cost centers
- How will the narrowing to areas of audit interest be shared between taxpayer's IT staff and the states' computer audit specialist (CAS)?
 - Who has the time and software capability to analyze very large data files?

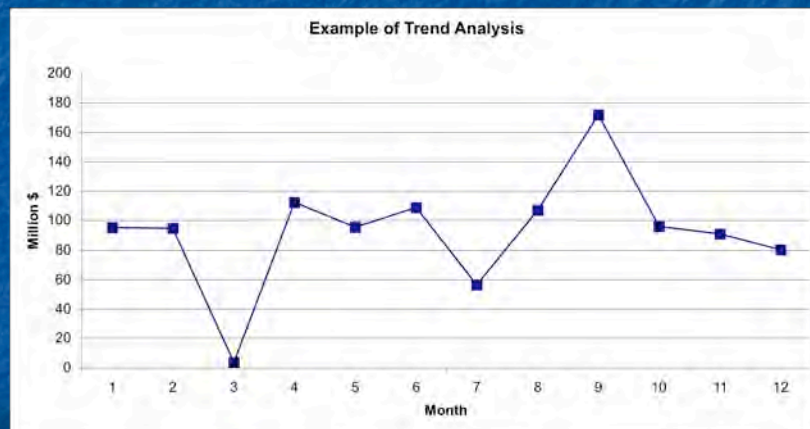
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Download: Drill-down Table

| <i>Description</i> | <i>Count Records</i> | <i>Net \$</i> | <i>Positive \$</i> | <i>Negative \$</i> |
|---|--------------------------|---------------|------------------------|------------------------|
| Data Download from IT | | | | |
| - Exclude matched debits and credits | | | | |
| - Excluded accounts, dates, locations, etc. | | | | |
| = Selected for Audit | | | | |
| - Groups to be detailed | | | | |
| - Strata with high \$ to be detailed | | | | |
| - Strata with low \$ with a minimum or zero sample size | | | | |
| = Sampling Frame for sampled strata | | | | |

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Download: Trend Analysis



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Download: Trends Observed

- Low dollars in a month may indicate:
 - data not extracted
 - accounting system conversion
 - operations shut down
- High dollars in a month may indicate:
 - duplicated data
 - catch-up from prior month
 - unusually large items

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Download: Reconcile to G/L

A/P Data Download

- ± Cash entries related to A/P
- ± Journal Entries for expense accruals, reversals, timing differences, etc.
- + Beginning balance in A/P
- = Ending balance in A/P

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Download: G/L Reconciliation Problems

- Very time-consuming when there are a large number of adjusting journal entries.
- Many adjustments are due to timing differences between cash and accrual accounting.
- G/L may include several legal entities, several operations, and different states.
- G/L includes many accounts with no sales and use tax implications, e.g., employee compensation.
- Even if a G/L reconciliation can be completed, how does that change the taxable base for sales and use tax?

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Download: Top-down tracing

- **Top-down** tracing is a reconciliation from the G/L totals **down** to the data download for a specific account for a specific month.
- May do several tracings for a few accounts for a few months across the audit period.
 - Ending balance in G/L expense account X
 - Beginning balance in G/L expense account X
 - = Net change in G/L expense account X
 - ± Reconciling items between G/L and A/P
 - = Net amount in A/P download for expense account X

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Download: Bottom-up tracing

- Bottom-**up** tracing is a reconciliation from the data download **up** to the G/L totals for a specific account for a specific month.
- May do several tracings for a few accounts for a few months across the audit period.

Net amount in A/P download for expense account X
± Reconciling items between G/L and A/P
= Net change in G/L expense account X
+ Beginning balance in G/L expense account X
= Ending balance in G/L expense account X

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Download: Ratio Analysis

Ratio comparisons at the store or location level may be useful in identifying outliers, particularly with multi-location retailers.

- Expense to revenue
- Sales to production
- Sales to personnel costs (employee + contractor)
- Sales to inventory received (such as beverages received by a bar)

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Selected for Audit: Concepts

- How reliable are the field codes?
 - Example: Zero tax amount in A/P but sales tax paid to vendor on invoice.
 - Some fields might not be usable for selection.
- Narrow versus wide selection?
 - No simple answer!
 - Narrowing may miss significant areas of tax underpayment or overpayment.
 - Widening leads to many sample items with zero adjustment amounts.

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Selected for Audit: Field Summary

Examples of fields that can be summarized:

- General ledger accounts
- Purchase type
 - With or without purchase order
 - Procurement cards
- Vendor Name or Customer Name
- Dates (year-month)
- Tax code (if reliable)
 - No tax shown
 - Sales or use tax paid to vendor
 - Use tax self-assessed
- Cost Center or Department
- Jurisdiction or Location

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Selected for Audit: Jurisdictions

- Transaction data files often contain transactions for several legal entities and several states.
 - State legislatures do not mandate specific methods for taxpayer data.
 - Audit notification defines entities to be audited.
- Consider grouping for jurisdiction codes
 - Clearly within the auditing state.
 - Clearly outside the auditing state.
 - Mixture of inside and outside the state.

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Grouping within Audit: Concepts

- Likelihood of tax adjustment
 - None: such as payments to government
 - High: such as information technology purchases
 - Moderate: such as general operating expenses
- Direction of adjustment
 - Underpayments (positive assessment)
 - Overpayments of sales tax to vendors
 - Overpayments of use tax to state
 - Local tax errors
- Examination treatment
 - Exclude
 - Detail (actual basis, census, 100% sample)
 - Sample
- Cost versus benefit in grouping
 - Too many groups may result in examining more items than budget allows.

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Concluding Comment

- Population analysis and verification are important, but time consuming.
- Try a variety of different techniques and adapt them as needed.
- Rather than trying to tie down every detail, focus on the big picture.

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