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Audit Risk

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Risk Assessment



Agenda

Audit Risk Model

- Various Components of Audit Risk

Ohio Auditor of State Risk Assessment Process

- Quantified Risk Assessments
- How the risk assessments drive audit procedures



Audit Risk Model

$$\text{AR} = \text{RMM} \times \text{Detection Risk}$$

- $\text{RMM} = \text{IR} \times \text{CR}$
- $\text{Detection Risk} = \text{AP} \times \text{TD}$
 - AP = Risk of failing to detect material misstatements through analytical procedures
 - TD = Risk of failing to detect material misstatements through substantive tests of details



Audit Risk Model

$$TD = NSTD \times SmTD$$

- NSTD = Non-Sampling Tests of Details
- SmTD = Sampling Tests of Details

Audit Risk Model with the various components:

- **$AR = (IR \times CR) \times (AP \times NSTD \times SmTD)$**



Ohio Auditor of State Risk Assessment Approach

$$AR = (IR \times CR) \times (AP \times NSTD \times SmTD)$$

- The detailed Audit Risk Model above is the basis for the mathematical approach.
- Requires quantifying the various components of audit risk.



Ohio Auditor of State Risk Assessment Approach

$$AR = (IR \times CR) \times (AP \times NSTD \times SmTD)$$

- To reasonably assure we reduce audit risk to an acceptably low level:
 - Express each of the components of AR as a percentage.
 - The formula must result in an AR of 5% or lower for each account exceeding performance materiality.



Risk Assessment
Matrix - Transaction C



Risk Assessment
Matrix - Acct Balance



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Risk Assessment

Quantitative Terms

Inherent Risk (IR)

High = 100%

Moderate = 50%

Control Risk (CR)

High = 100%

Mod to High = 75%

Moderate = 50%

Low = 10%

Analytical Procedures Risk (AP)

High = 100%

Mod to High = 70%

Moderate = 40%

Low = 5%



Inherent Risk

Inherent Risk Assessment Form (IRAF)

- Must be completed for all audits
- Documents Inherent Risk and affected assertions



IRAF



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Risk Assessment Matrix

Inherent Risk

7.a Audit risk assessments	Assertions	Opinion Unit	Inherent Risk (From IRAF) (IR)
Intergovernmental revenue - All	OT,AT, CmT, Cft,CuT	GTA, GF, PA, MA, DD, RFI, Agency	100%
Charges for Services - Type: Auditor's/Treasurer's Fees; Recorder's Extended Access, Cost Allocation	OT,AT, CmT, Cft,CuT	GTA, GF	100%
Charges for Services - Type: Recorder's Fees	OT,AT, CmT, Cft,CuT	GTA, GF	100%
Charges for Services - Type: Care Center	OT,AT, CmT, Cft,CuT	BTA, CC	100%
Purchasing - Nonpayroll (including encumbrances)	OT,AT, CmT, Cft,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%
Payroll - All	OT,AT, CmT, Cft,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%



Control Risk

Components of Internal Control

Control Environment

Information and Communication

Management's Risk Assessment

Control Activities

Management's Monitoring



Risk Assessment

Quantitative Terms

Inherent Risk (IR)

High = 100%

Moderate = 50%

Control Risk (CR)

High = 100%

Mod to High = 75%

Moderate = 50%

Low = 10%

Analytical Procedures Risk (AP)

High = 100%

Mod to High = 70%

Moderate = 40%

Low = 5%



Control Risk

CR = High (100%)

- Document control activities & Test Implementation
- Document IT General Controls & Test Implementation
- Document the sufficiency of planned substantive procedures

CR = Moderate to High (75%)

- Document control activities (more detail) & Test Implementation
- Document IT General Controls & Test Implementation



Control Risk

CR = Moderate (50%) or Low (10%)

- Document the Design of Control Activities & Test operating effectiveness
- Document IT General Controls & Test Operating Effectiveness

Whether the audit work supports the 50% or 10% risk assessment is determined by the extent of testing and the results. The Controls Audit Sampling Documentation Form (ASDF) provides appropriate sample sizes to support the planned control risk assessment.



Nonpayroll
Controls ASDF



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Risk Assessment Matrix

Control Risk

7.a Audit risk assessments	Assertions	Opinion Unit	CR Prelim (See Note 1 below)	CR Final (See Note 1 below)
Intergovernmental revenue - All	OT,AT, CmT, CfT,CuT	GTA, GF, PA, MA, DD, RFI , Agency	100%	100%
Charges for Services - Type: Auditor's/Treasurer's Fees; Recorder's Extended Access, Cost Allocation	OT,AT, CmT, CfT,CuT	GTA, GF	100%	100%
Charges for Services - Type: Recorder's Fees	OT,AT, CmT, CfT,CuT	GTA, GF	50%	50%
Charges for Services - Type: Care Center	OT,AT, CmT, CfT,CuT	BTA, CC	100%	100%
Purchasing - Nonpayroll (including encumbrances)	OT,AT, CmT, CfT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	10%	10%
Payroll - All	OT,AT, CmT, CfT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	10%	10%



Risk Assessment

Quantitative Terms

Inherent Risk (IR)

High = 100%

Moderate = 50%

Control Risk (CR)

High = 100%

Mod to High = 75%

Moderate = 50%

Low = 10%

Analytical Procedures Risk (AP)

High = 100%

Mod to High = 70%

Moderate = 40%

Low = 5%



Analytical Procedures Risk

AU-C § 520 addresses requirements related to Analytical Procedures

Our Audit Manual includes an appendix that provides guidance on the level of detail / precision required to support an AP Risk Assessment below 100%.

We cannot use AP as the sole substantive procedures for accounts we deem pose significant risk.



Analytical
Procedures Appendix



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Risk Assessment Matrix

Analytical Procedures Risk

7.a Audit risk assessments	Assertions	Opinion Unit	Analytical Procedure Risk (AP)
Intergovernmental revenue - All	OT,AT, CmT, Cft,CuT	GTA, GF, PA, MA, DD, RFI, Agency	100%
Charges for Services - Type: Auditor's/Treasurer's Fees; Recorder's Extended Access, Cost Allocation	OT,AT, CmT, Cft,CuT	GTA, GF	100%
Charges for Services - Type: Recorder's Fees	OT,AT, CmT, Cft,CuT	GTA, GF	100%
Charges for Services - Type: Care Center	OT,AT, CmT, Cft,CuT	BTA, CC	70%
Purchasing - Nonpayroll (including encumbrances)	OT,AT, CmT, Cft,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%
Payroll - All	OT,AT, CmT, Cft,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%



Non-Sampling Tests of Details Risk

Reduce non-sampling risk through audit procedures such as:

- External Confirmations
- High Dollar Testing

Express the risk percentage as an inverse of the coverage obtained.

- Confirm 95% of account - Express NSTD as 5%
- High Dollar Test covers 67% of population – Express NSTD as 33%
- If NSTD covers 100% - Express NSTD as 1%



Risk Assessment Matrix

Non-Sampling Tests of Details

7.a Audit risk assessments	Assertions	Opinion Unit	Non-sampling TD Risk (This is the inverse of non-sampling tests of details - i.e. the inverse of high dollar tests, if 100% tested enter 1% since there is always some risk) (NS TD)
Intergovernmental revenue - All	OT,AT, CmT, CfT,CuT	GTA, GF, PA, MA, DD, RFI, Agency	5%
Charges for Services - Type: Auditor's/Treasurer's Fees; Recorder's Extended Access, Cost Allocation	OT,AT, CmT, CfT,CuT	GTA, GF	1%
Charges for Services - Type: Recorder's Fees	OT,AT, CmT, CfT,CuT	GTA, GF	100%
Charges for Services - Type: Care Center	OT,AT, CmT, CfT,CuT	BTA, CC	33%
Purchasing - Nonpayroll (including encumbrances)	OT,AT, CmT, CfT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%
Payroll - All	OT,AT, CmT, CfT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	100%



Sampling Tests of Details Risks

The Risk Assessment worksheet calculates Audit Risk before sampling ($IR \times CR \times AP \times NSTD$)

If AR before sampling $> 5\%$, sampling tests of details is required.

Sample Sizes are computed on the Audit Sampling Documentation Form (ASDF), and is directly related to the quantified risk assessments.

Risk Assessment Matrix

Sampling Tests of Details



Nonpayroll
Substantive ASDF

7.a Audit risk assessments	Assertions	Opinion Unit	AR before sampling (Calculated Field - do not change) (See Note 5 below)	Desired AR level to achieve from Sampling (calculated field) - sampling is required unless AR before sampling is <= 5%) (Sm TD)	Calculated field - do not change** AR
Intergovernmental revenue - All	OT,AT, CmT, CFT,CuT	GTA, GF, PA, MA, DD, RFI, Agency	5.0%	N/A	5.0%
Charges for Services - Type: Auditor's/Treasurer's Fees; Recorder's Extended Access, Cost Allocation	OT,AT, CmT, CFT,CuT	GTA, GF	1.0%	N/A	1.0%
Charges for Services - Type: Recorder's Fees	OT,AT, CmT, CFT,CuT	GTA, GF	50.0%	10.0%	5.0%
Charges for Services - Type: Care Center	OT,AT, CmT, CFT,CuT	BTA, CC	23.1%	21.6%	5.0%
Purchasing - Nonpayroll (including encumbrances)	OT,AT, CmT, CFT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	10.0%	50.0%	5.0%
Payroll - All	OT,AT, CmT, CFT,CuT	GTA, BTA, GF, PA, MA, DD, RFI, CC	10.0%	50.0%	5.0%



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Fraud Risk & Significant Risk

Not separate components of the mathematical risk assessment model

Document fraud risk assessment

Develop an audit reaction to address the risk, including determining the impact on planned risk assessments.

Ohio Auditor of State Risk Assessment Approach

Let's look at an example of all of the pieces put together.



Risk Assessment
Matrix Example



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Questions



THANK
YOU



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