

3º Workshop Duxus de Risco

Uma questão de controle.



OPAD - 356

Samuel Rodrigues Rios



exame.

DR

Da Redação

Publicado em 6 de maio de 2010 às 18h41.

Erro humano pode ter causado pânico

Operador queria vender milhões de ações; vendeu bilhões

Nova
histó
amer
respo
baixa de 3,2%, quase 700 pontos acima da mínima do dia.

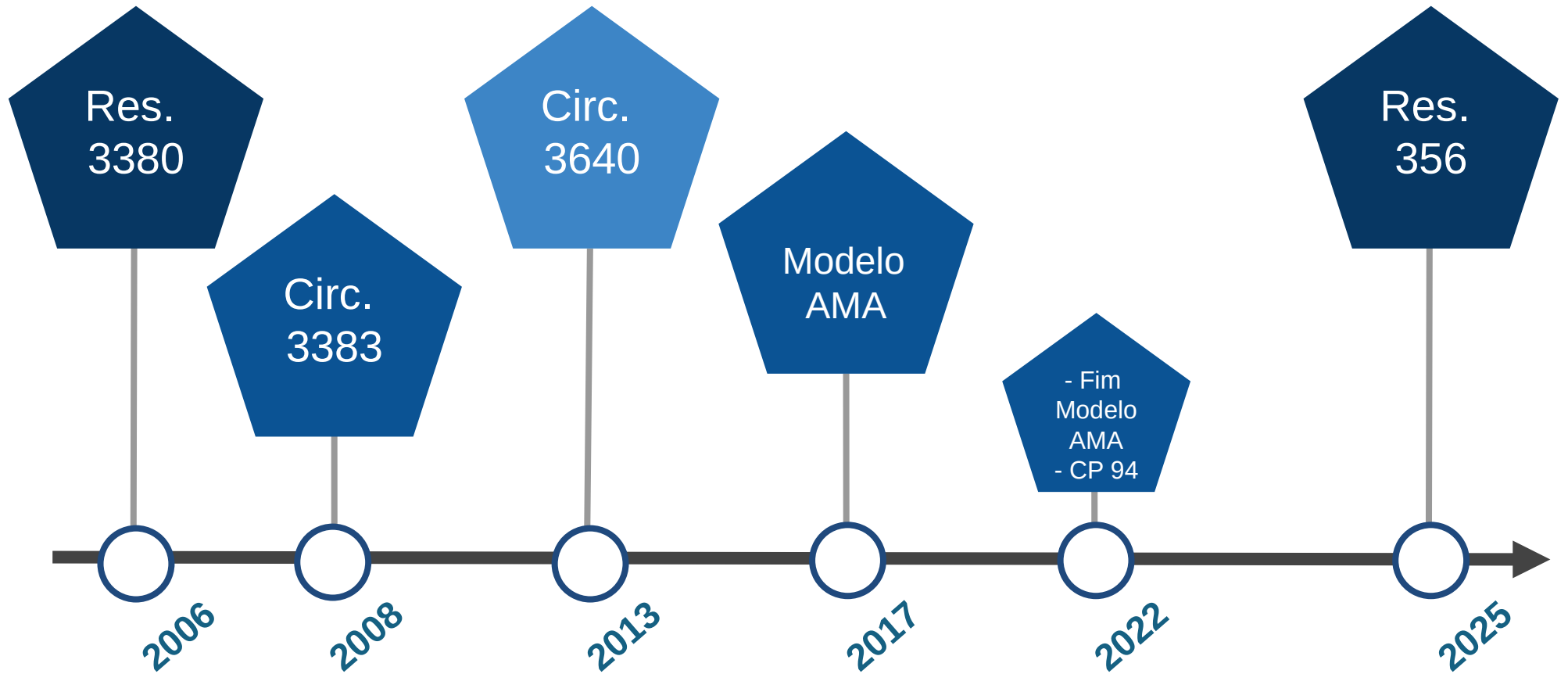
da

chou em

Como mensurar?



Histórico OPAD



➤ **Circ. 3.640:**

➤ **Diferentes Abordagens**

- AIB
- APA
- APAS

➤ **Linhas de Negócios**

OPAD 3.640 – Abordagens

AIB – Abordagem do Indicador Básico

$$RWA_{OPAD} = \frac{1}{F} \cdot \frac{\sum_{t=1}^3 \max [0,15 \times IE_t; 0]}{n}$$

APAS – Abordagem Padronizada Alternativa Simplificada

$$RWA_{OPAD} = \frac{1}{F} \cdot \frac{\sum_{t=1}^3 \max \{[(IAE_t \times 0,15) + (IE_t \times 0,18)]; 0\}}{3}$$

APA – Abordagem Padronizada Alternativa

$$RWA_{OPAD} = \frac{1}{F} \cdot \frac{\sum_{t=1}^3 \max \left[\left(\sum_{i=1}^2 IAE_{i,t} \times \beta_i \right) + \left(\sum_{i=3}^8 IE_{i,t} \times \beta_i \right); 0 \right]}{3}$$

OPAD 3.640 - Linhas de Negócio

Varejo

Comercial

Finanças Corporativas

Negociação e Vendas

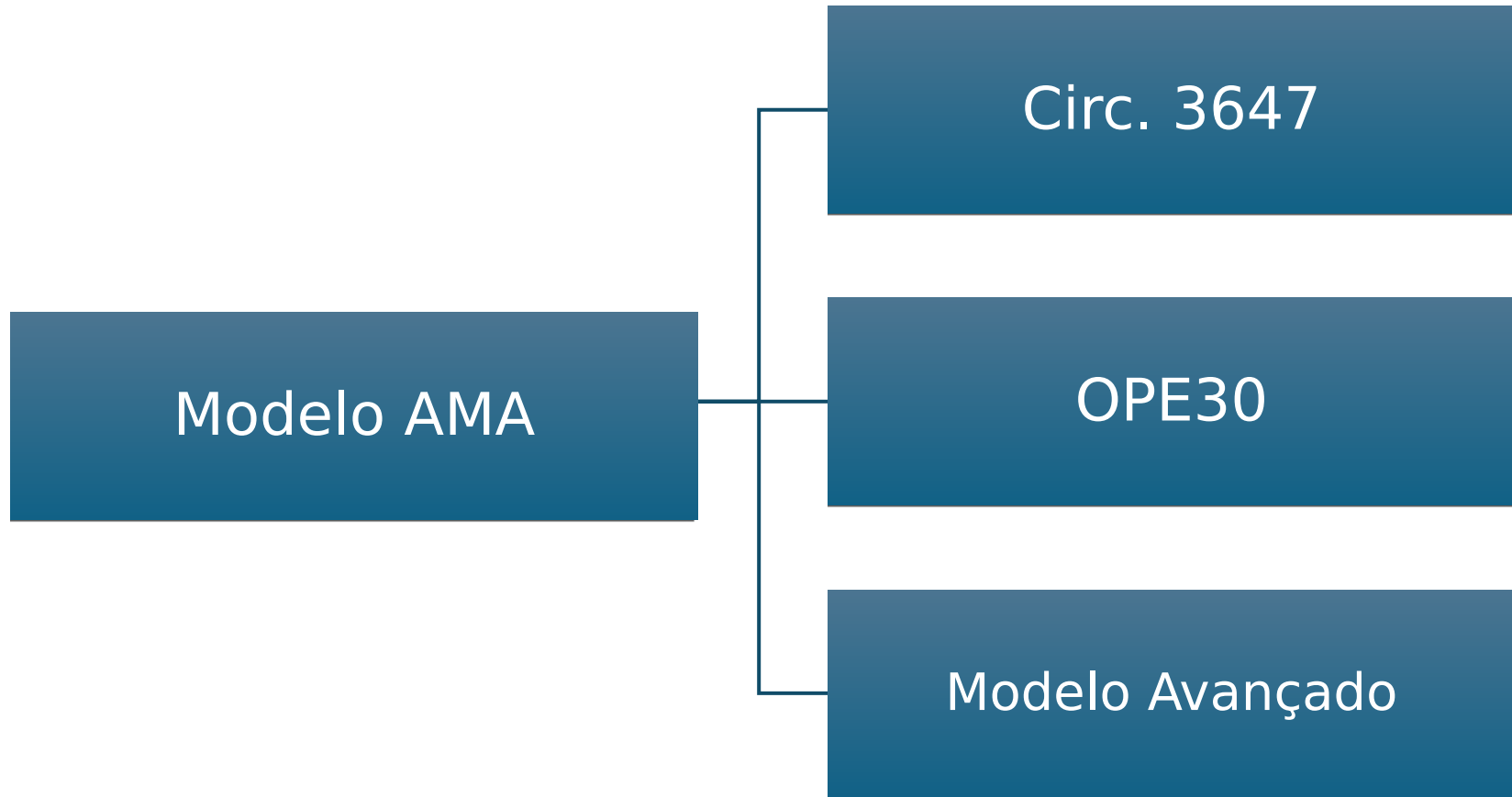
**Pagamentos e
Liquidações**

**Serviços de
Agente Financeiro**

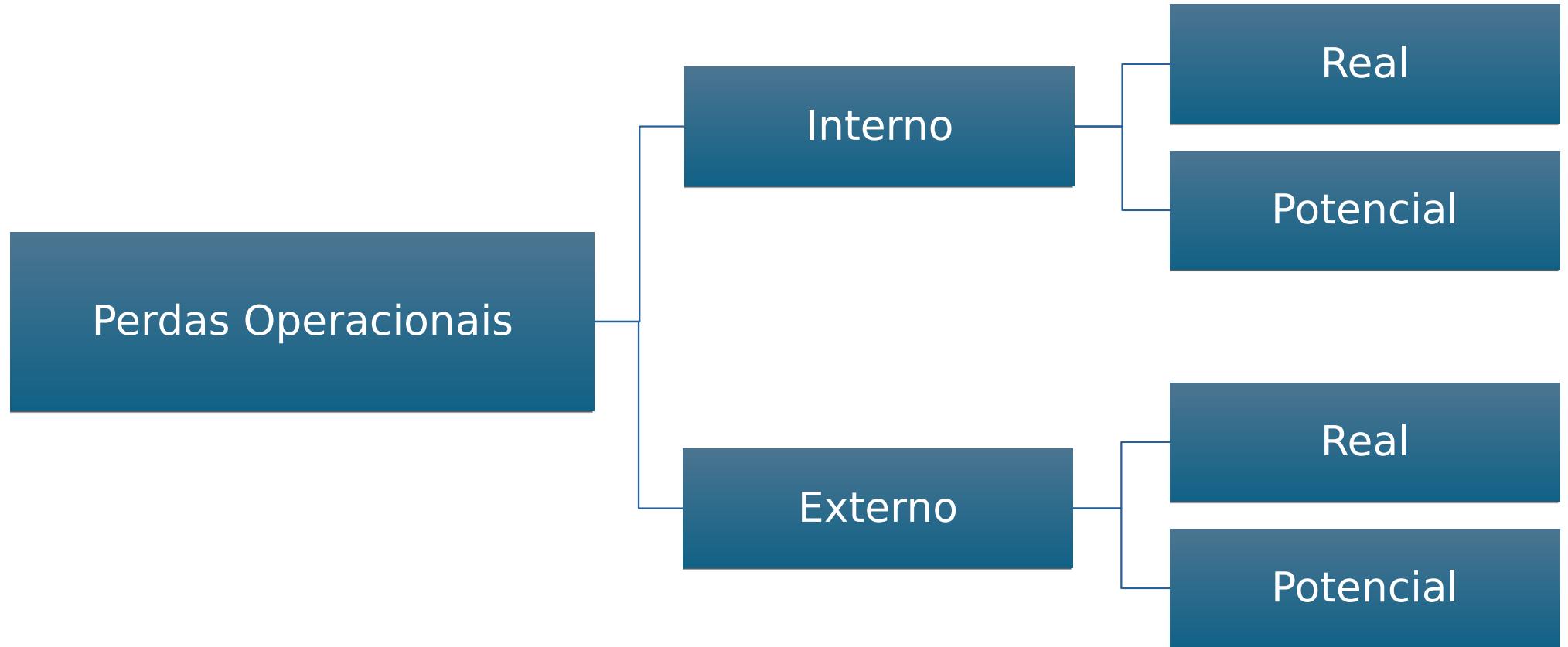
**Administração de
Ativos**

**Corretagem
de Varejo**

Modelo AMA - 4º Abordagem



Modelo AMA - Variáveis



Modelo AMA - Fragilidades

Vulnerável

Comparatibilidade

Complexidade

Sensibilidade

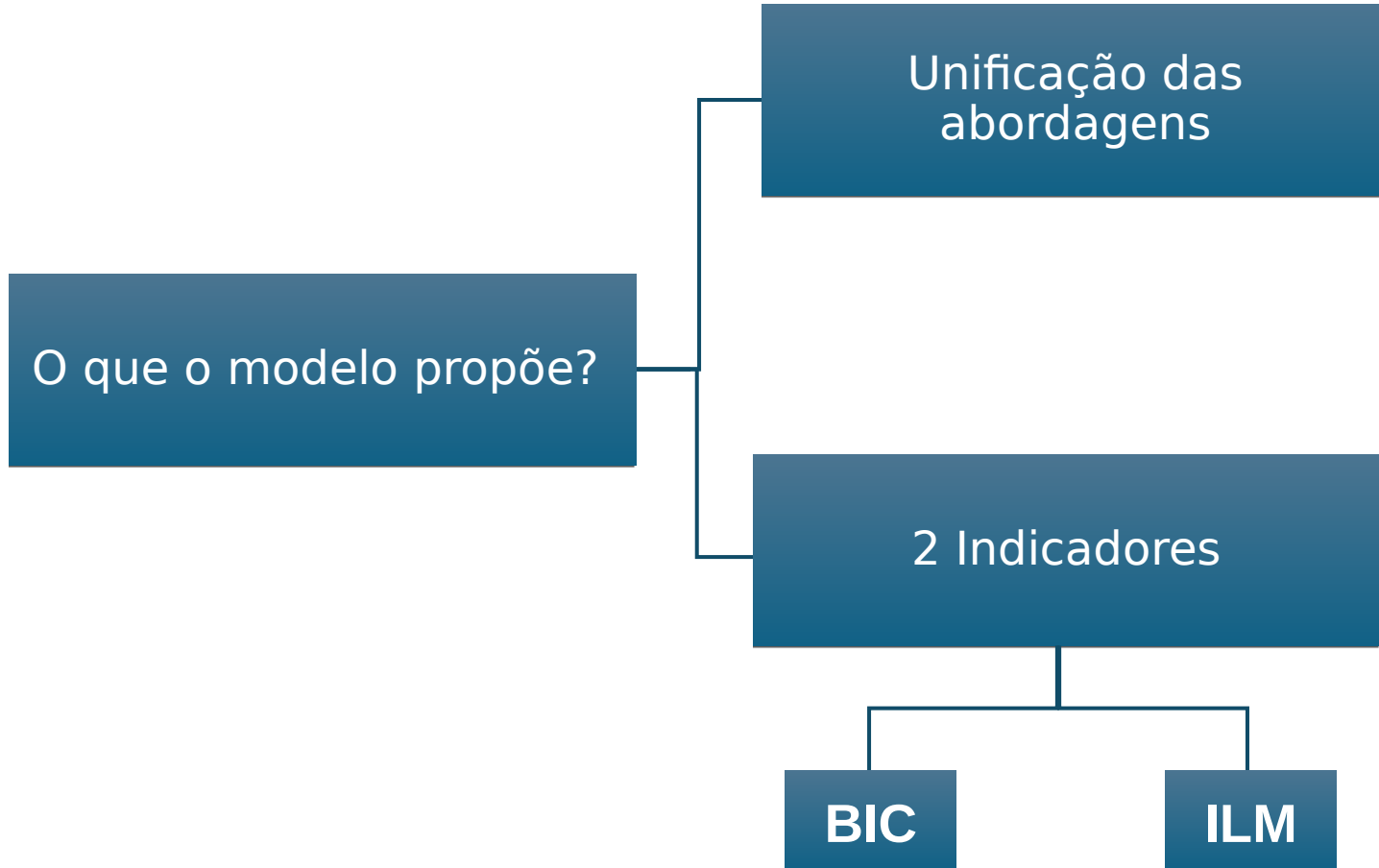
Modelo AMA - Fim do Modelo

- The SMA will replace the three existing standardised approaches for calculating operational risk capital as well as the Advanced Measurement Approach (AMA), thus significantly simplifying the regulatory framework;



Basel Committee issues proposed revisions to the operational risk capital framework

"Advanced Measurement Approaches" (AMA) - has been removed from the operational risk framework. The Committee believes that modelling of operational risk for regulatory capital purposes is unduly complex and that the AMA has resulted in excessive variability in risk-weighted assets and insufficient levels of capital for some banks.



OPAD 356 – Preocupação Internacional



Our Take: PwC's Financial Services Update

responsible for 78% of the overall 24% RWA inflation for Category I

and II banks and 118% total for Category III and IV banks

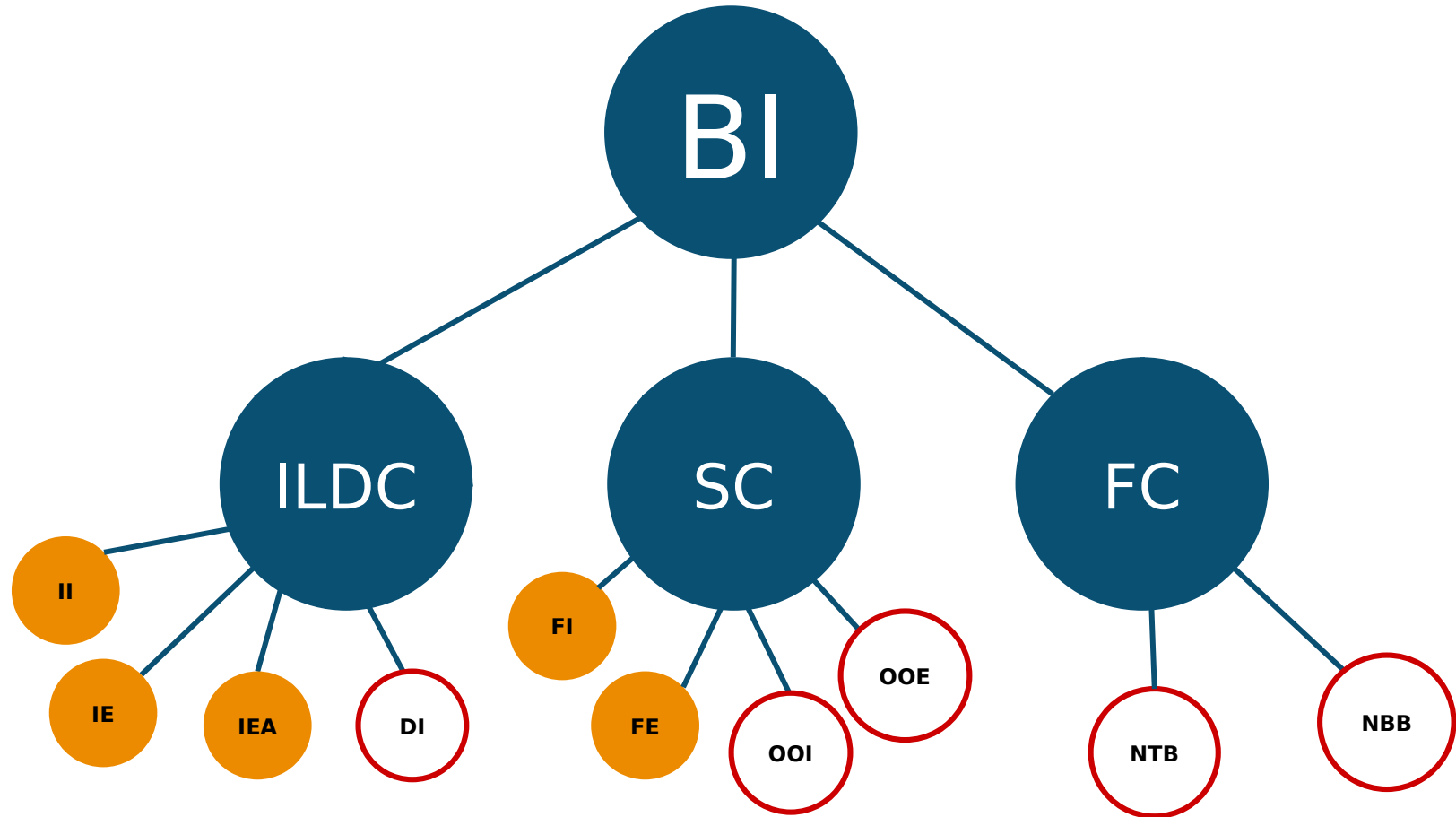
1. Under the current U.S. proposal, banks will be required to calculate their RWA under the SA and what the proposal describes as the “expanded risk-based approach,” which includes the new operational risk SMA. Banks would be bound by the higher of the two approaches.
2. We estimate that the operational risk SA would be responsible for 78% of the overall 24% RWA inflation for Category I and II banks and 118% total for Category III and IV banks, making it the largest driver of the estimated overall RWA increase of 24% for Category I and II banks and 118% of the overall 11% increase for Category III and IV banks.

$$RW AOPAD = \frac{1}{F} \times (BIC \times ILM)$$

$$RW AOPAD = \frac{1}{F} \times (BIC \times ILM)$$

$f(BI)$

OPAD 356 - BI



ILDC:

$$ILDC = \text{Min}\{\text{Media}[\text{Abs}(II_t - IE_t); \text{Abs}(II_{t-1} - IE_{t-1}); \text{Abs}(II_{t-2} - IE_{t-2})], \\ [2, 25\% \times \text{Media}(IEA_t; IEA_{t-1}; IEA_{t-2})]\} + \\ \text{Media}(DI_t; DI_{t-1}; DI_{t-2})$$

SC:

$$SC = \text{Max}\{\text{Media}(FI_t; FI_{t-1}; FI_{t-2}), \text{Media}[\text{Abs}(FE_t); \text{Abs}(FE_{t-1}); \text{Abs}(FE_{t-2})]\} + \\ \text{Max}\{\text{Media}(OOI_t; OOI_{t-1}; OOI_{t-2}), \text{Media}[\text{Abs}(OOE_t); \text{Abs}(OOE_{t-1}); \text{Abs}(OOE_{t-2})]\}$$

FC:

$$FC = \text{Media}[\text{Abs}(NTB_t); \text{Abs}(NTB_{t-1}); \text{Abs}(NTB_{t-2})] + \\ \text{Media}[\text{Abs}(NBB_t); \text{Abs}(NBB_{t-1}); \text{Abs}(NBB_{t-2})]$$

ILDC:

$$ILDC = \text{Min}\{\text{Media}[\text{Abs}(II_t - IE_t); \text{Abs}(II_{t-1} - IE_{t-1}); \text{Abs}(II_{t-2} - IE_{t-2})], \\ [2, 25\% \times \text{Media}(IEA_t; IEA_{t-1}; IEA_{t-2})]\} + \\ \text{Media}(DI_t; DI_{t-1}; DI_{t-2})$$

SC:

$$SC = \text{Max}\{\text{Media}(FI_t; FI_{t-1}; FI_{t-2}), \text{Media}[\text{Abs}(FE_t; \text{Abs}(FE_{t-1}); \text{Abs}(FE_{t-2}))]\} + \\ \text{Max}\{\text{Media}(OOI_t; OOI_{t-1}; OOI_{t-2}), \text{Media}[\text{Abs}(OOE_t; \text{Abs}(OOE_{t-1}); \text{Abs}(OOE_{t-2}))]\}$$

FC:

$$FC = \text{Media}[Abs(NTB_t); Abs(NTB_{t-1}; Abs(NTB_{t-2}))] + \\ \text{Media}[Abs(NBB_t); Abs(NBB_{t-1}; Abs(NBB_{t-2}))]$$

OPAD 356: BIC - Fórmula

$$RW AOPAD = \frac{1}{F} \times (BIC \times ILM)$$

$f(BI)$

12% BI:
 $\leq 5bi$

15% BI:
 $> 5bi \text{ e } \leq 150bi$

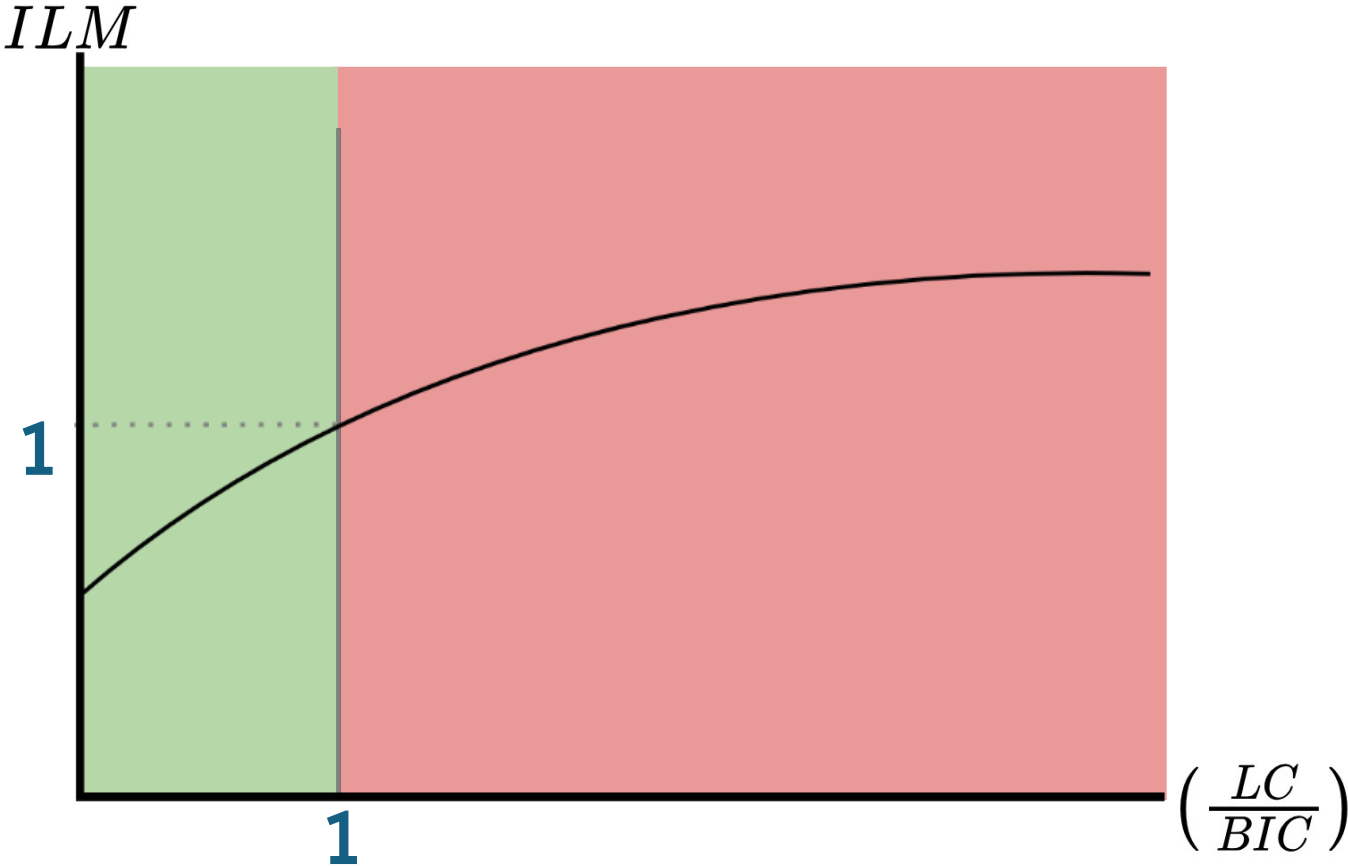
18% BI:
 $\geq 150bi$

OPAD 356 - ILM - Fórmula

$$ILM = \left(\ln(\exp(1) - 1 + \left(\frac{LC}{BIC} \right)^{0,8}) \right)$$



OPAD 356 - ILM – Quando usar?



Considerações Finais

- ✓ Abordagem única
- ✓ Componentes novos
- ✓ COSIF's duplicadas
- ✓ Trabalha com amplitude
- ✓ Interesse em controle de PO

Obrigado!

3º Workshop Duxus de Risco

Uma questão de controle.



OPAD – 356 na Prática

Fabio Henrique Correa



Contabilidade – Banco Prático

Ativo

COSIF	SALDO
16000001	8.962.351.386,70

Receita

COSIF	SALDO
71100001	648.806.408,99
71400000	223.722.738,44
71500003	1.363.185.926,87
71700009	141.754.797,71
71800002	29.114.123,34
71900005	145.863.982,47

Despesa

COSIF	SALDO
81100008	-1.668.826.661,07
81200001	-2.670.557,92
81500000	-785.547,26
81700006	-326.644.561,40
81800009	-205.082.797,65
81900002	-99.032.493,23

Contabilidade – Banco Prático

Ativo

COSIF	SALDO
16000001	8.962.351.386,70

Receita

COSIF	SALDO
71100001	648.806.408,99
71400000	223.722.738,44
71500003	1.363.185.926,87
71700006	326.644.561,40
71800002	29.114.123,34
71900005	145.863.982,47

Despesa

COSIF	SALDO
81100008	-1.668.826.661,07
81200001	-2.670.557,92
81500000	-785.547,26
81700006	-326.644.561,40
81800009	-205.082.797,65
81900002	-99.032.493,23

**Ativo Gerador de Juros
(Op. de Crédito)**

Contabilidade – Banco Prático

Ativo

COSIF	SALDO
16000001	8.962.351.386,70

Rendas de Operações de Crédito

Rendas com Títulos e Valores Mobiliários e Instrumentos Financeiros Derivativos

Receita

COSIF	SALDO
71100001	648.806.408,99
71400000	223.722.738,44
71500003	1.363.185.926,87
71700009	141.754.797,71
71800002	29.114.123,34
71900005	145.863.982,47

Despesa

COSIF	SALDO
81100008	-1.668.826.661,07
81200001	-2.670.557,00
81500000	-785.547,26
81700006	-326.644.561,40
81800009	-205.082.797,65
81900002	-99.032.493,23

Rendas de Participações

Contabilidade – Banco Prático

Ativo

COSIF	SALDO
16000001	8.962.351.386,70

Receita

COSIF	SALDO
71100001	648.806.408,99
71500003	1.363.185.926,87
71700009	141.754.797,71
71800002	29.114.123,34

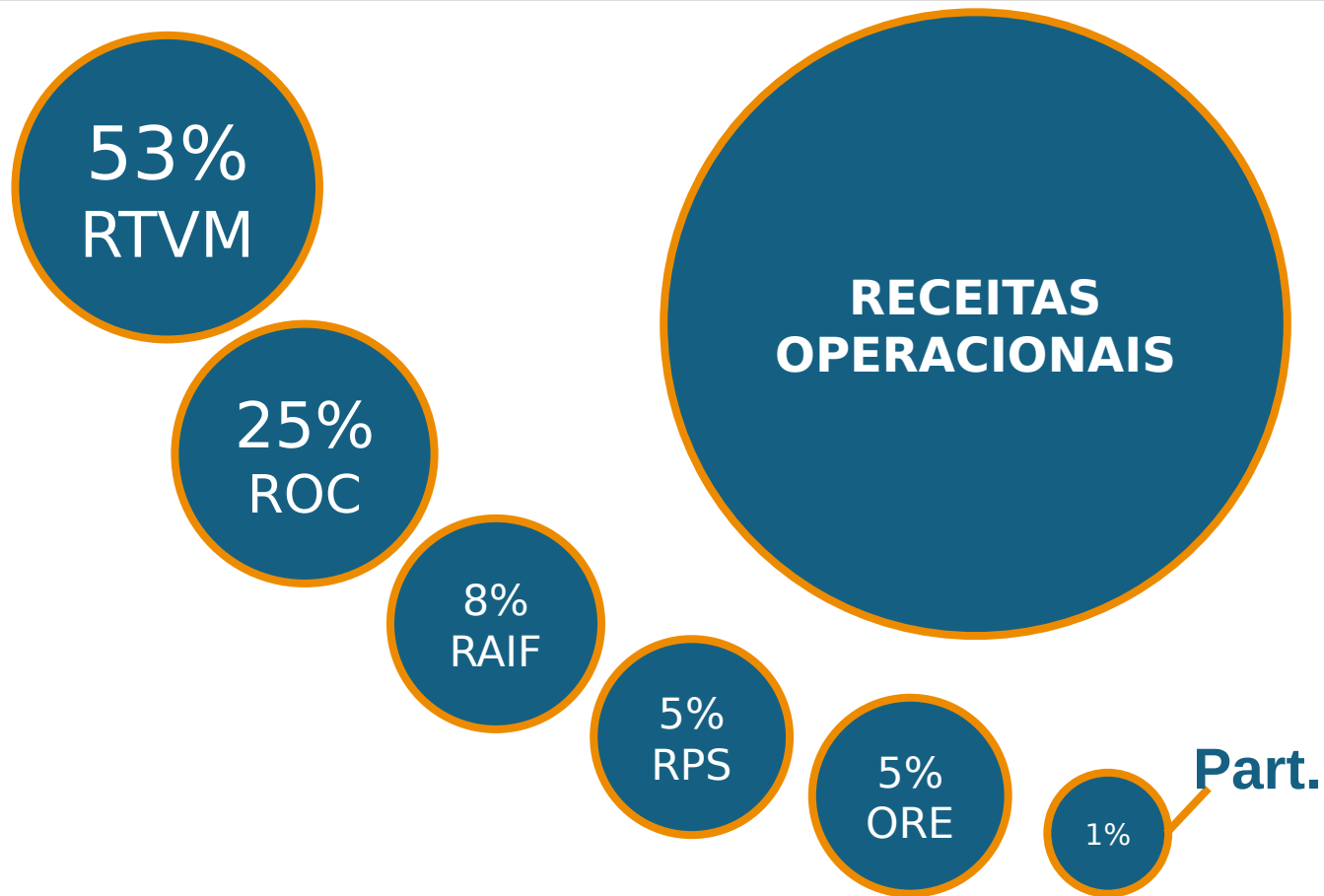
Despesa

COSIF	SALDO
81100008	-1.668.826.661,07
81200001	-2.670.557,92
81500000	-785.547,26
81700006	-326.644.561,40
81800009	-205.082.797,65
81900002	-99.032.493,23

Despesas de Captação

Aprovisionamentos e Ajustes Patrimoniais

Contabilidade – Banco Prático



Contabilidade – Banco Prático



Banco Prático - APAS

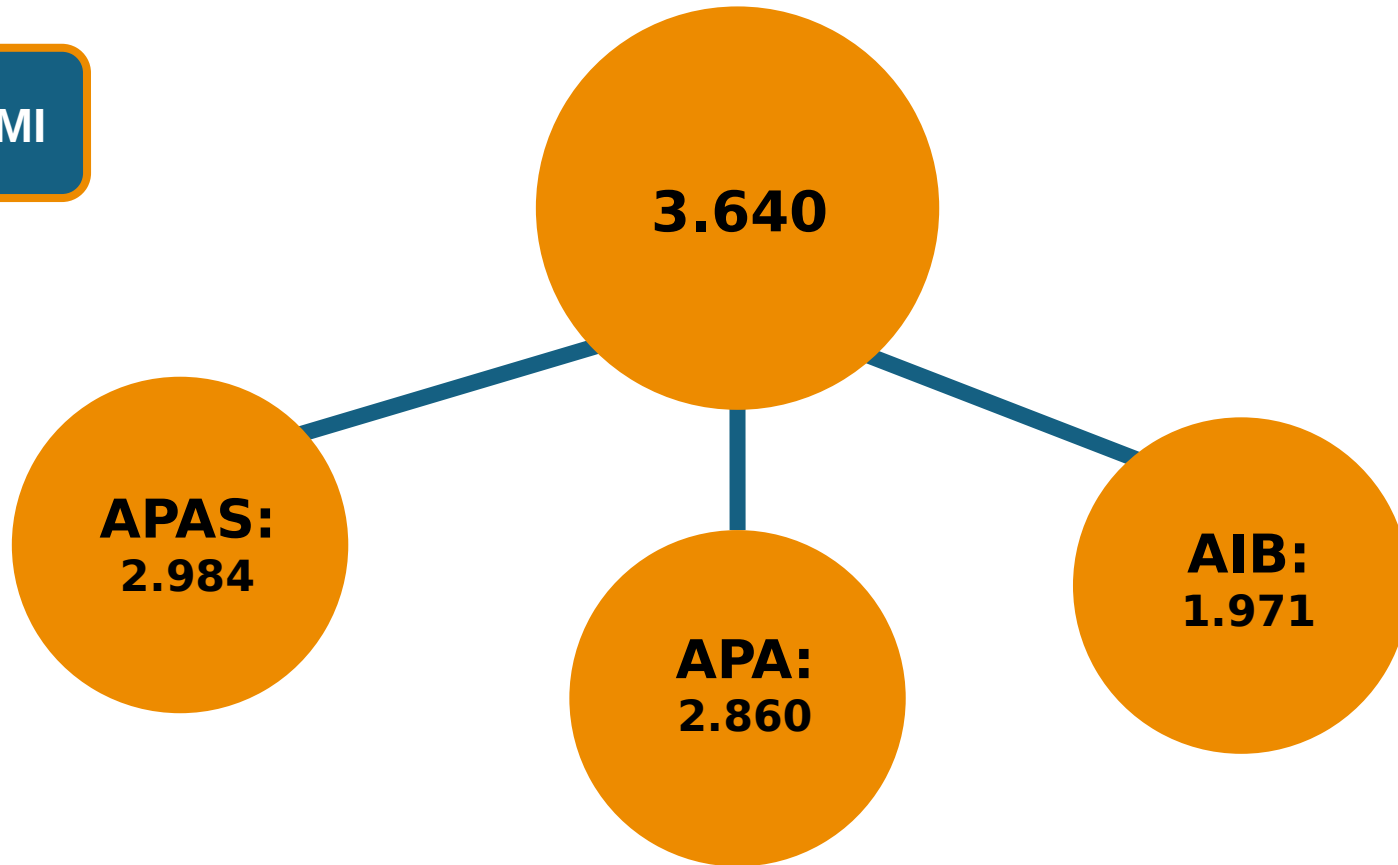
RESULTADO	IE Ano t	1.010
	IE Ano t-1	1.051
	IE Ano t-2	1.093
PATRIMONIAL	IAE Ano t	316
	IAE Ano t-1	329
	IAE Ano t-2	342

R\$ - MI

↓
OPAD - APAS:
2.984

3640 – Banco Prático

R\$ - MI





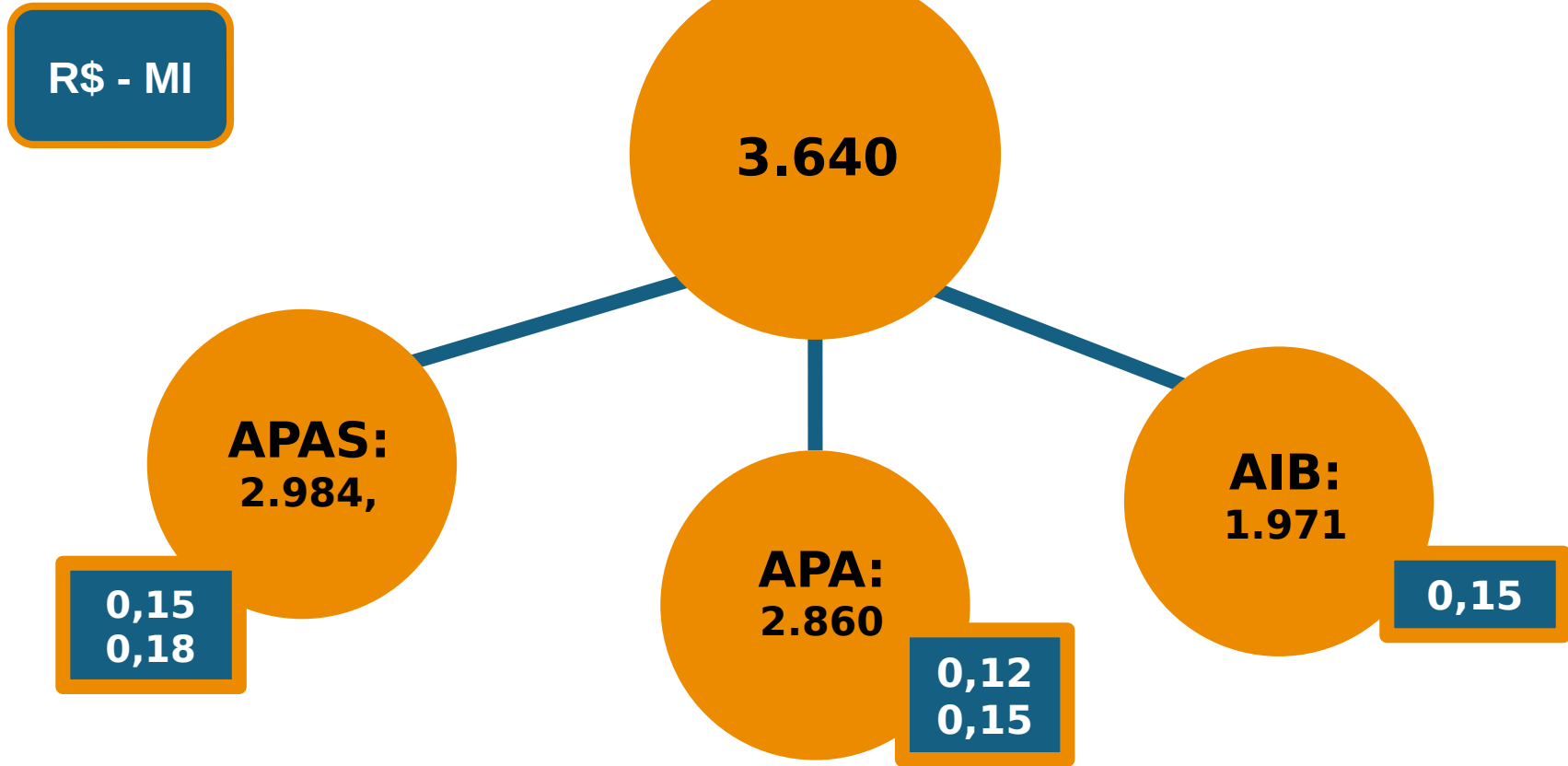
APAS x AIB
APAS x APA



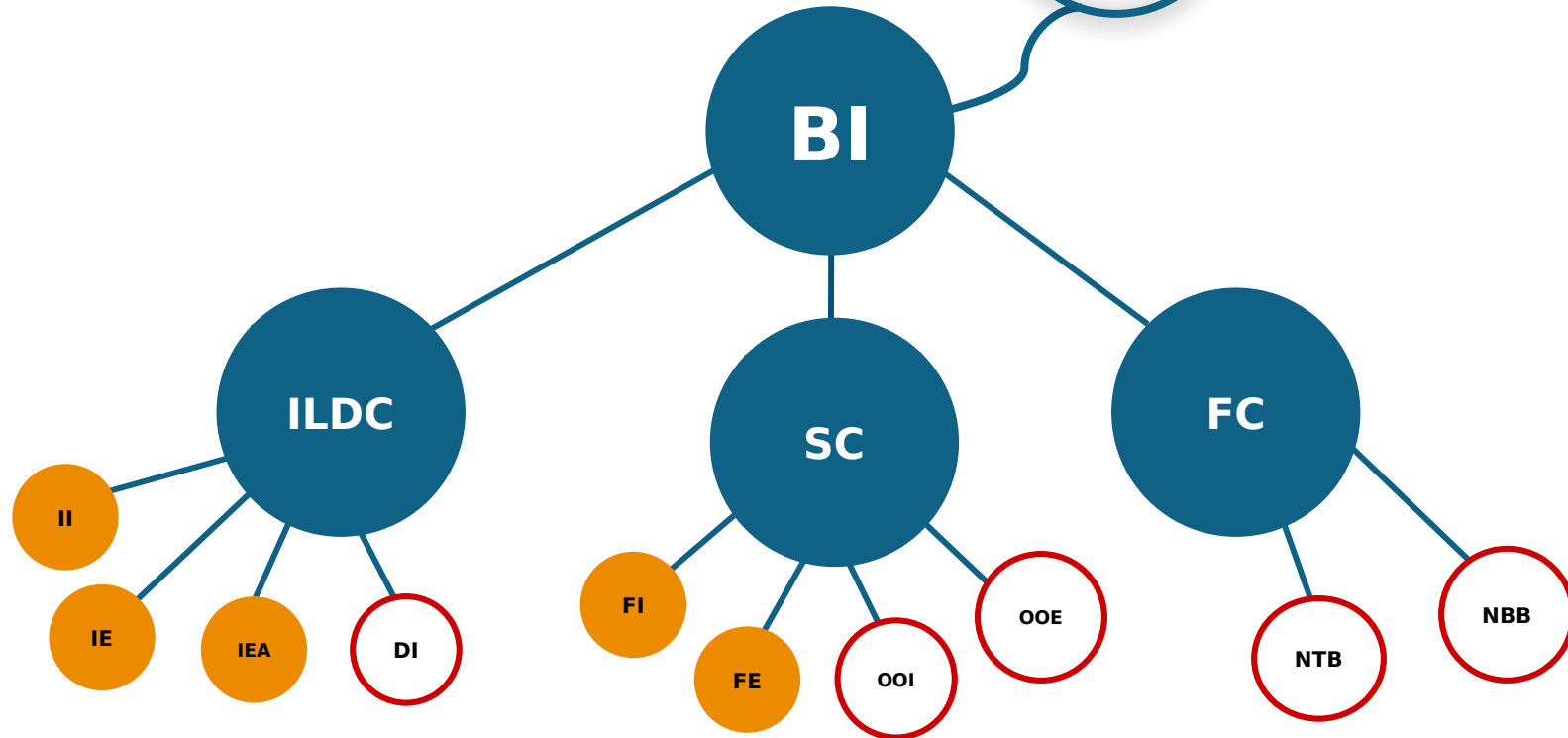
APA:
2.860

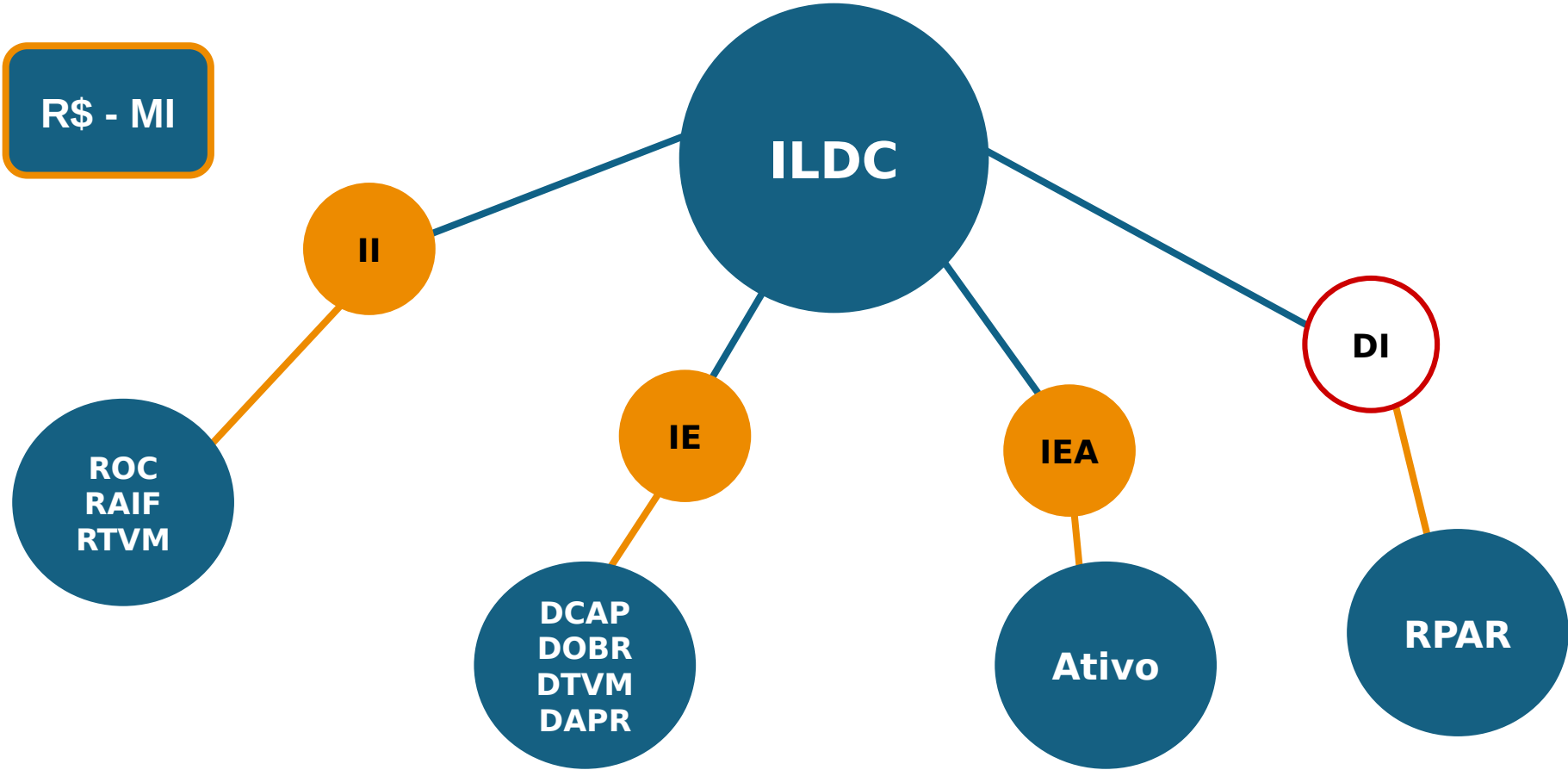
1.971

3640 – Banco Prático

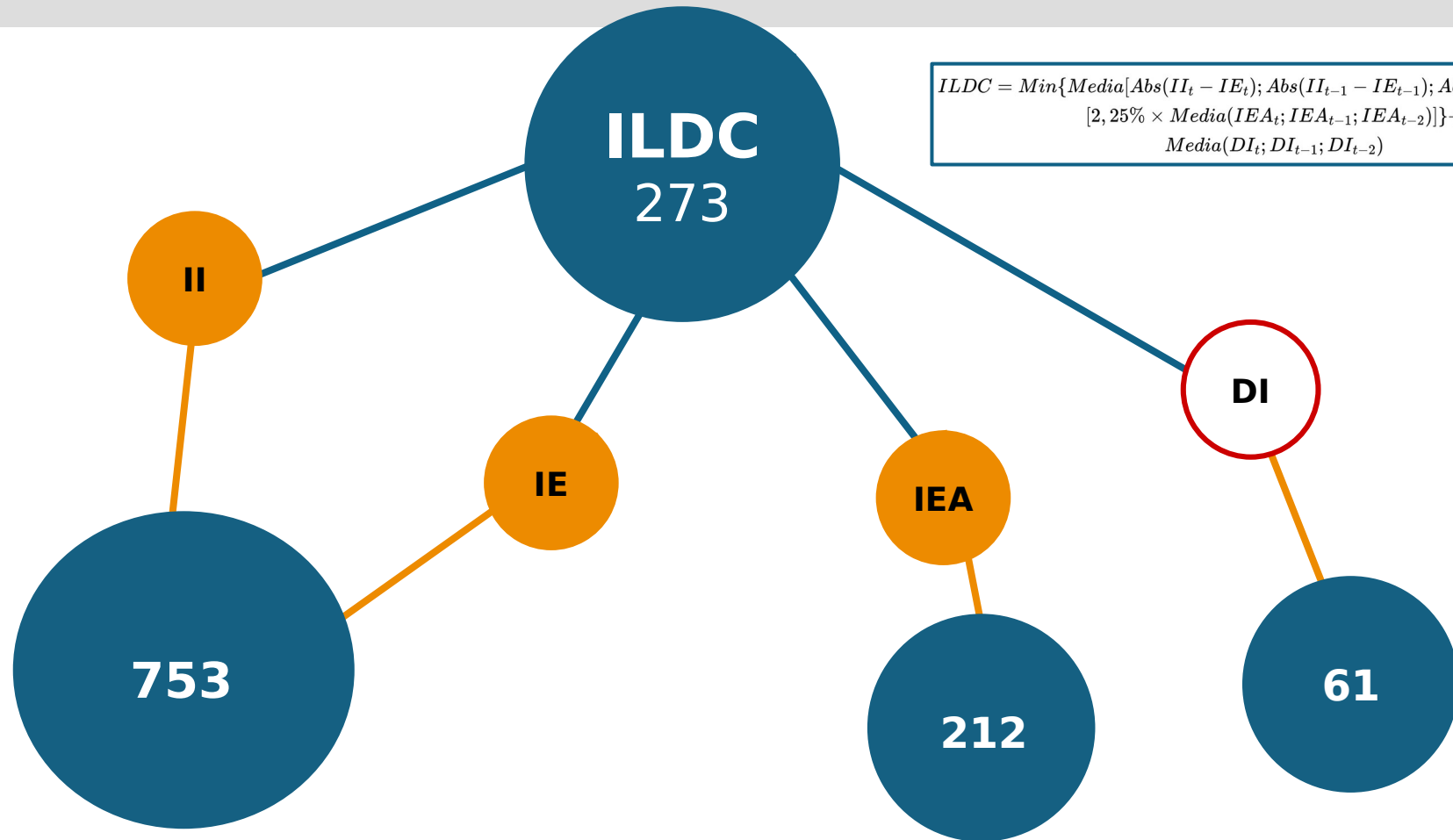


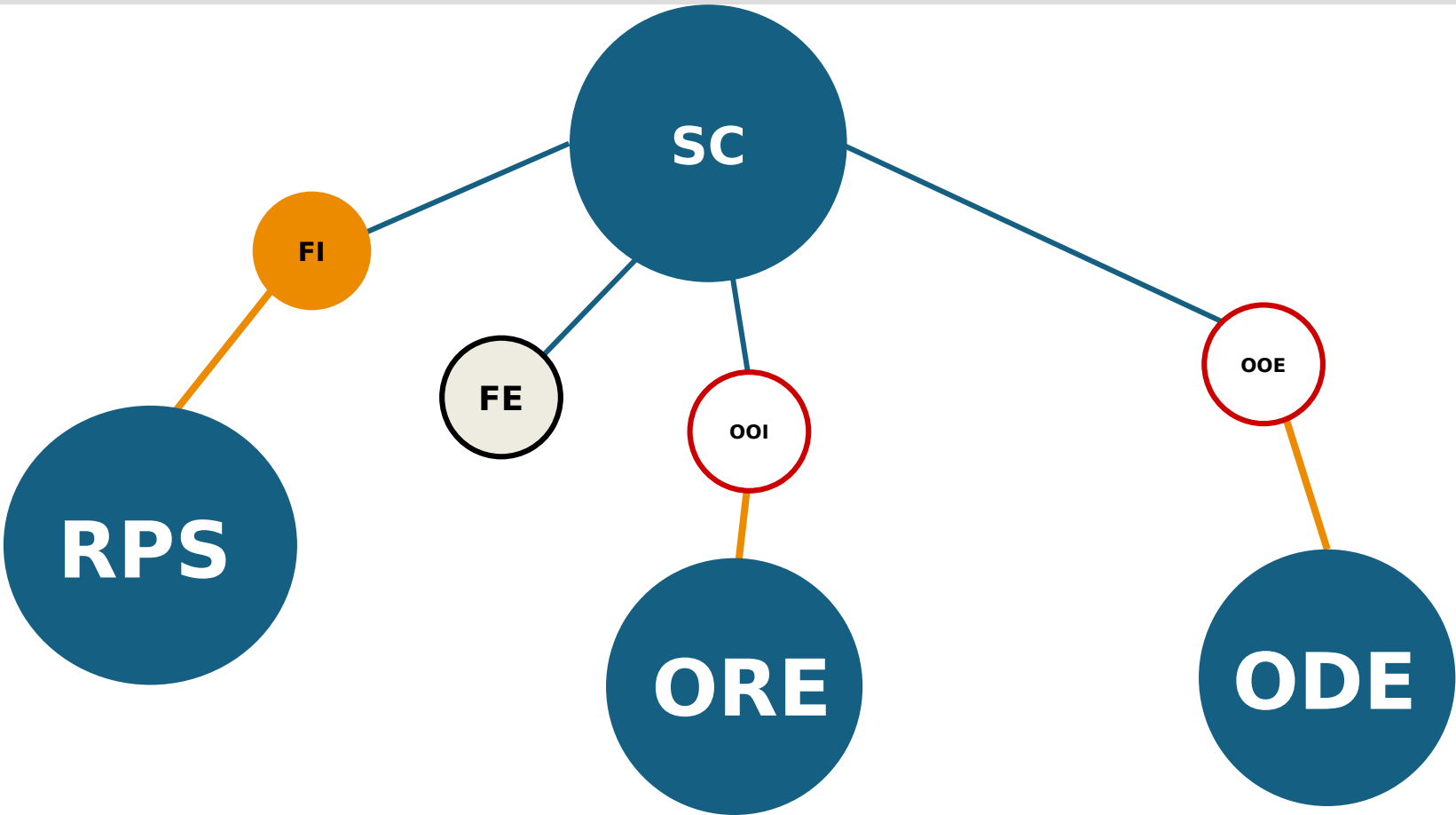
$$RW AOPAD = \frac{1}{F} \times (BIC \times ILM)$$





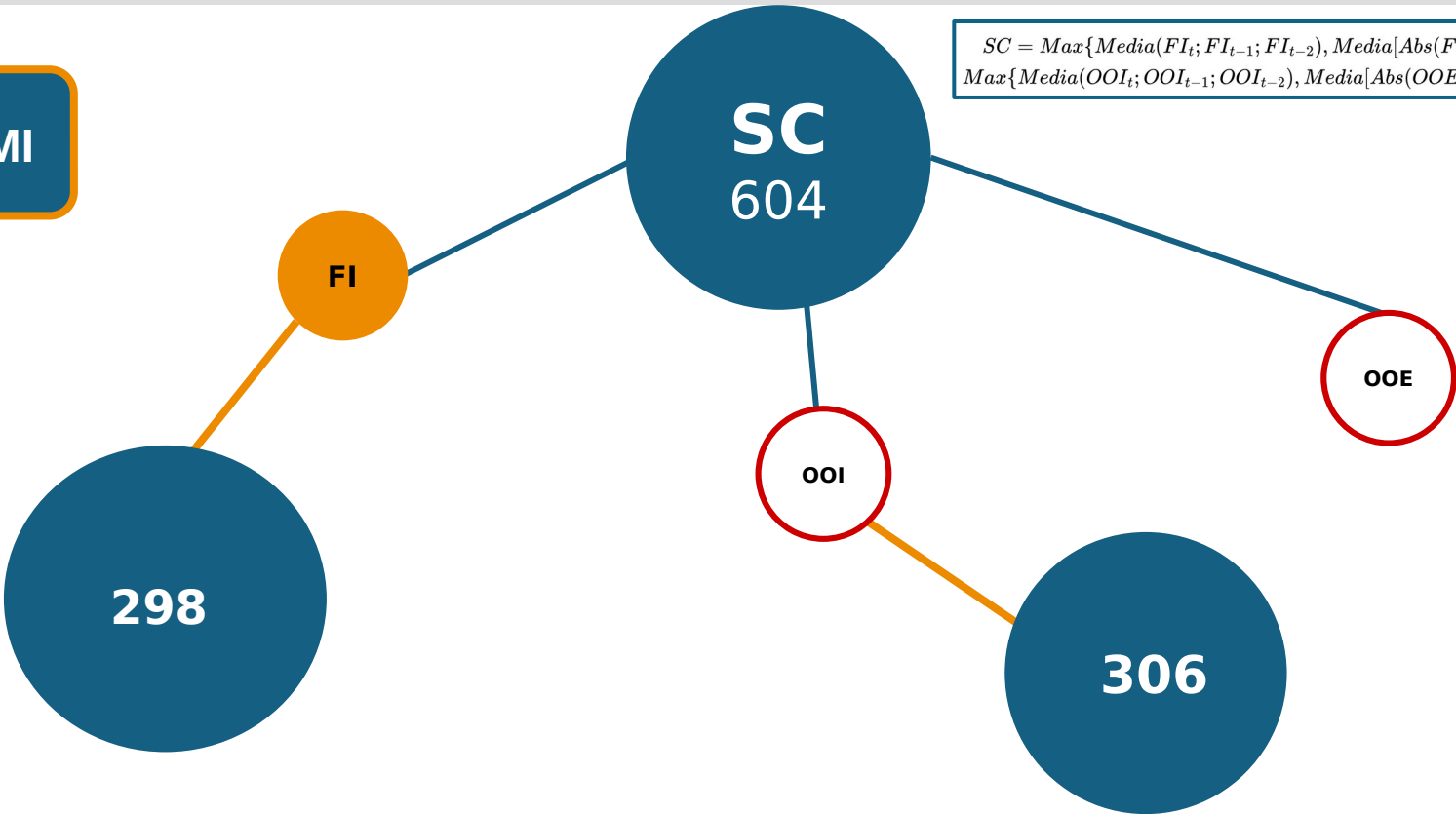
356 – Banco Prático



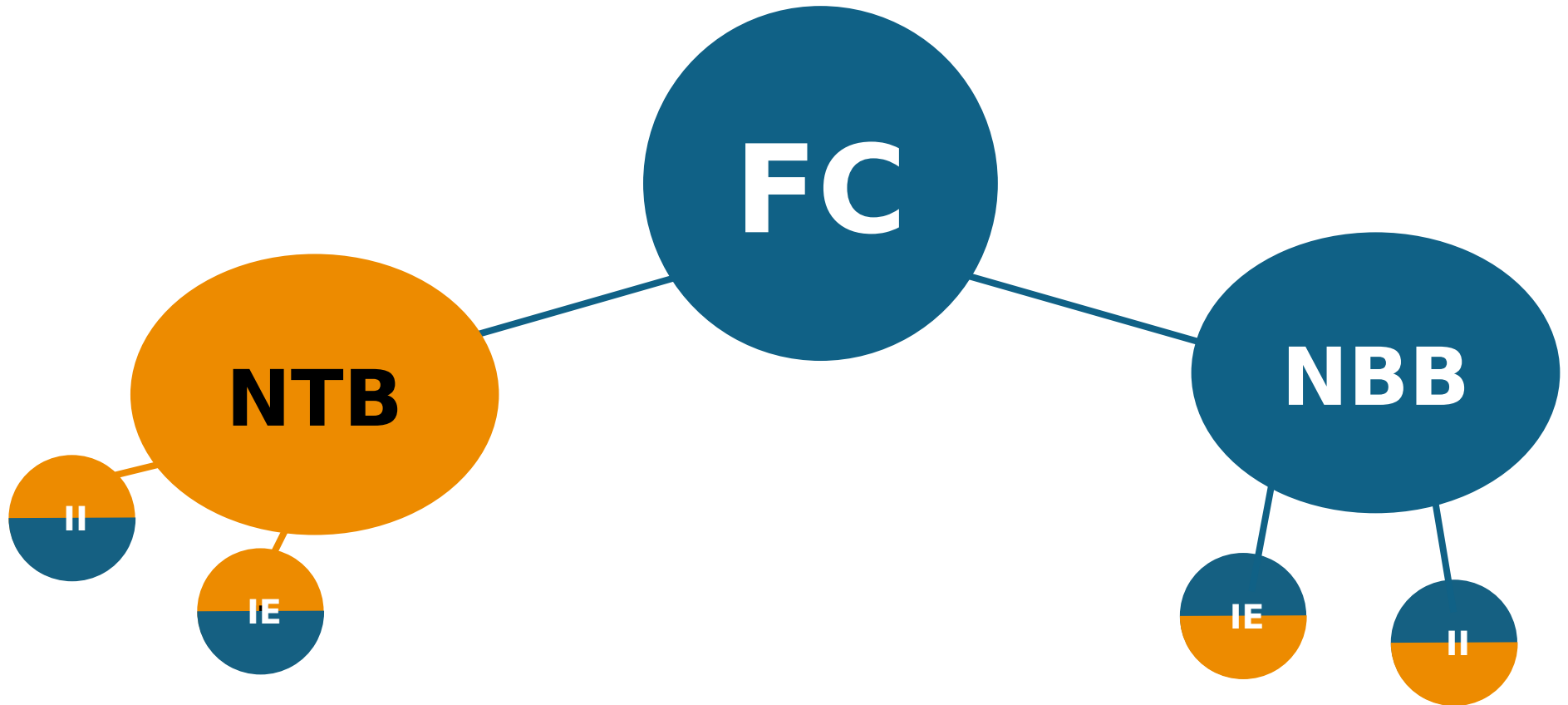


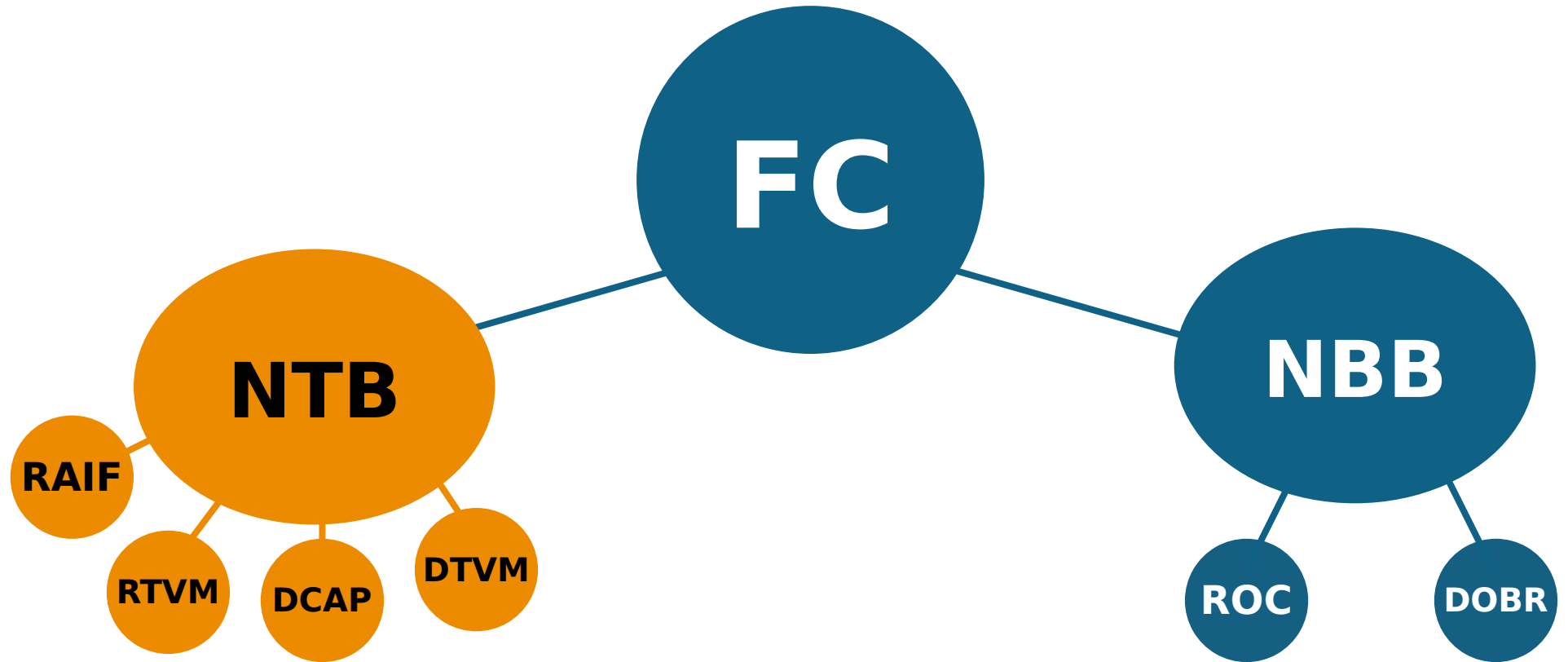
356 – Banco Prático

R\$ - MI



$$SC = \text{Max}\{\text{Media}(FI_t; FI_{t-1}; FI_{t-2}), \text{Media}[\text{Abs}(FE_t; \text{Abs}(FE_{t-1}); \text{Abs}(FE_{t-2}))]\} + \text{Max}\{\text{Media}(OOI_t; OOI_{t-1}; OOI_{t-2}), \text{Media}[\text{Abs}(OOE_t; \text{Abs}(OOE_{t-1}); \text{Abs}(OOE_{t-2}))]\}$$

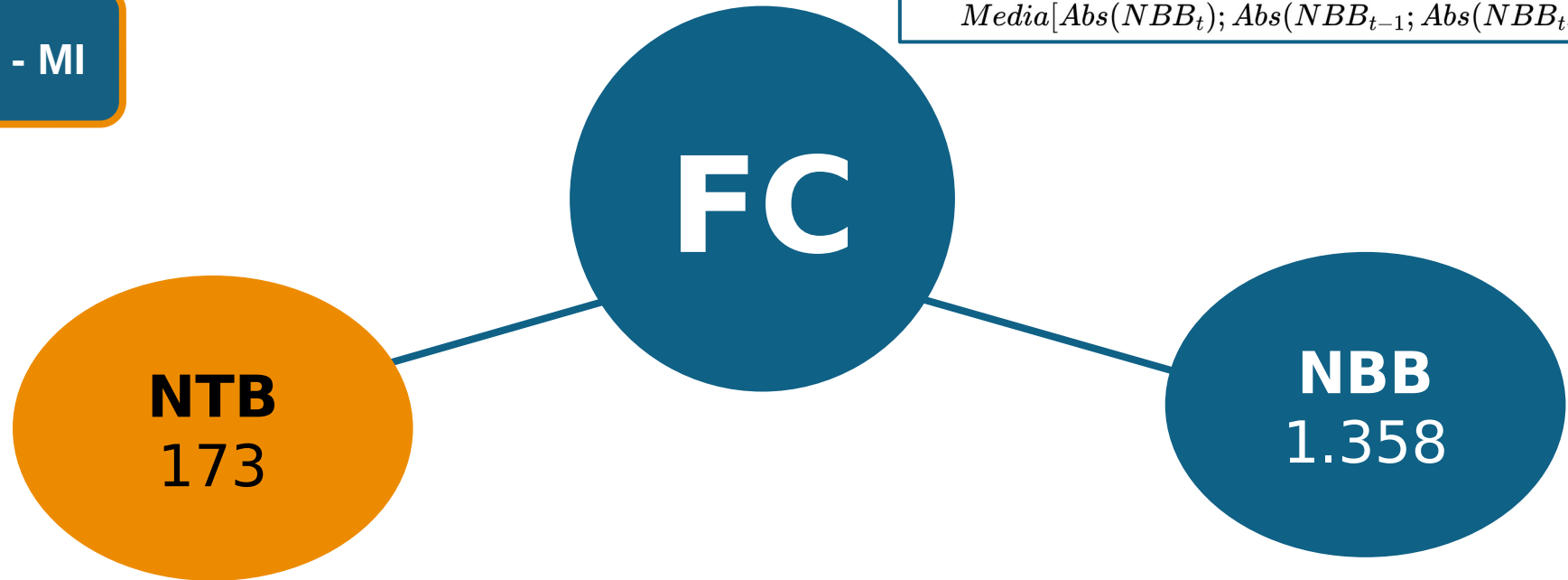




356 – Banco Prático

R\$ - MI

$$FC = \text{Media}[Abs(NTB_t); Abs(NTB_{t-1}); Abs(NTB_{t-2})] + \text{Media}[Abs(NBB_t); Abs(NBB_{t-1}); Abs(NBB_{t-2})]$$



356 – Banco Prático

Ano	Valor
1	50.000.000,00
2	60.000.000,00
3	500.000.000,00
4	50.000.000,00
5	5.000.000,00
6	5.000.000,00
7	5.000.000,00
8	5.000.000,00
9	5.000.000,00
10	5.000.000,00



356 – Banco Prático

$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

356 – Banco Prático

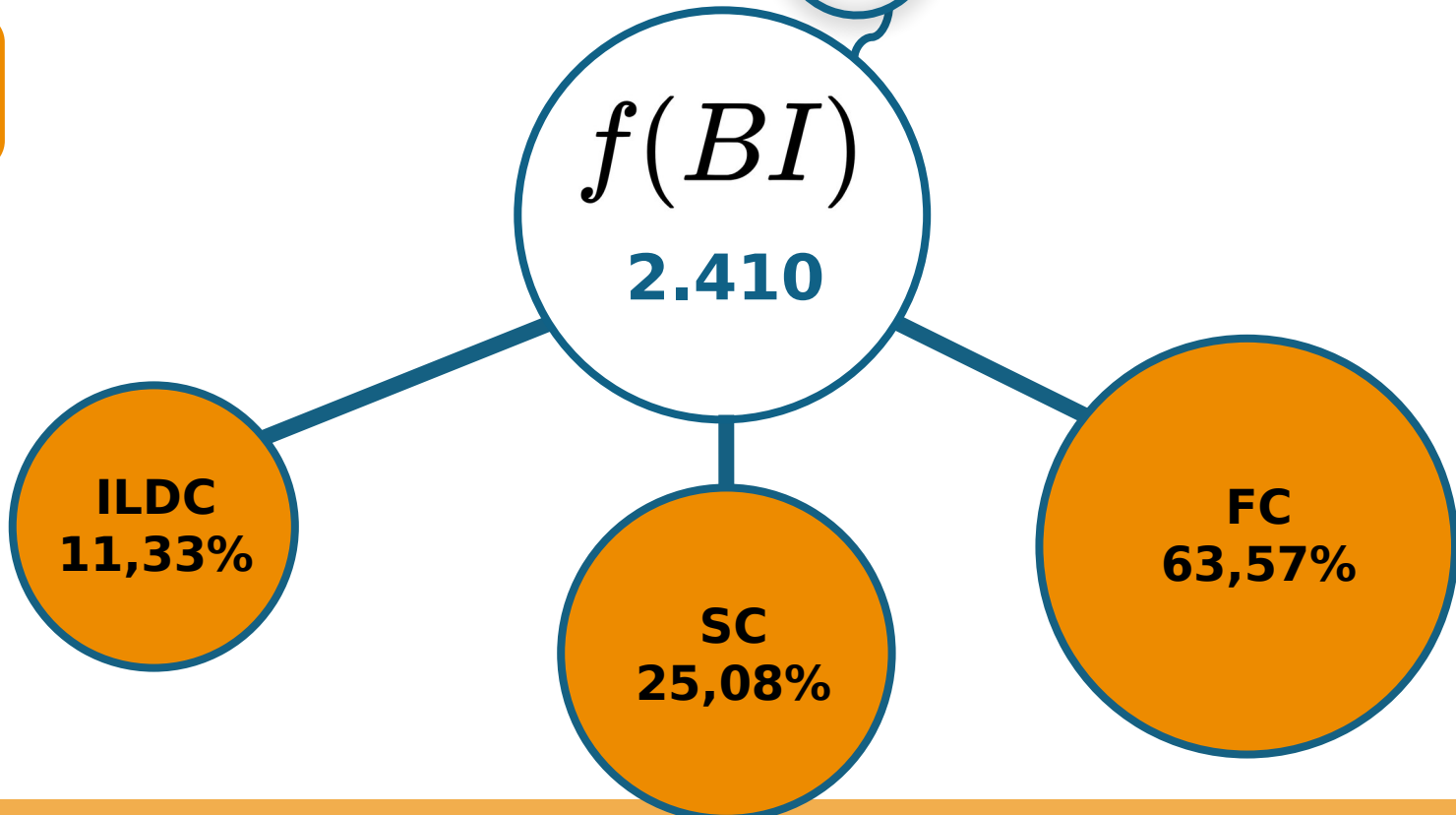
$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

$f(BI)$

356 – Banco Prático

$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

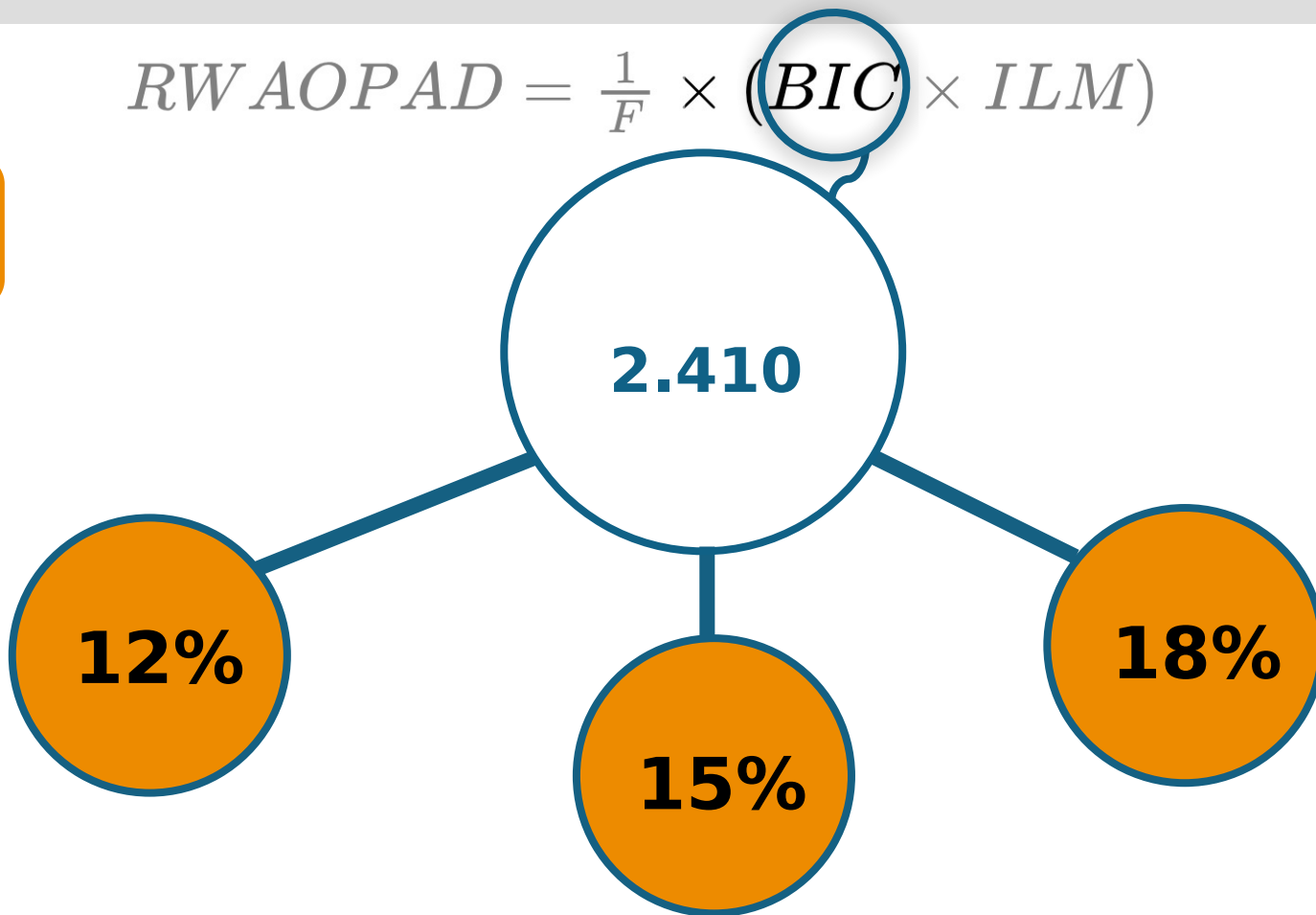
R\$ - MI



356 – Banco Prático

$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

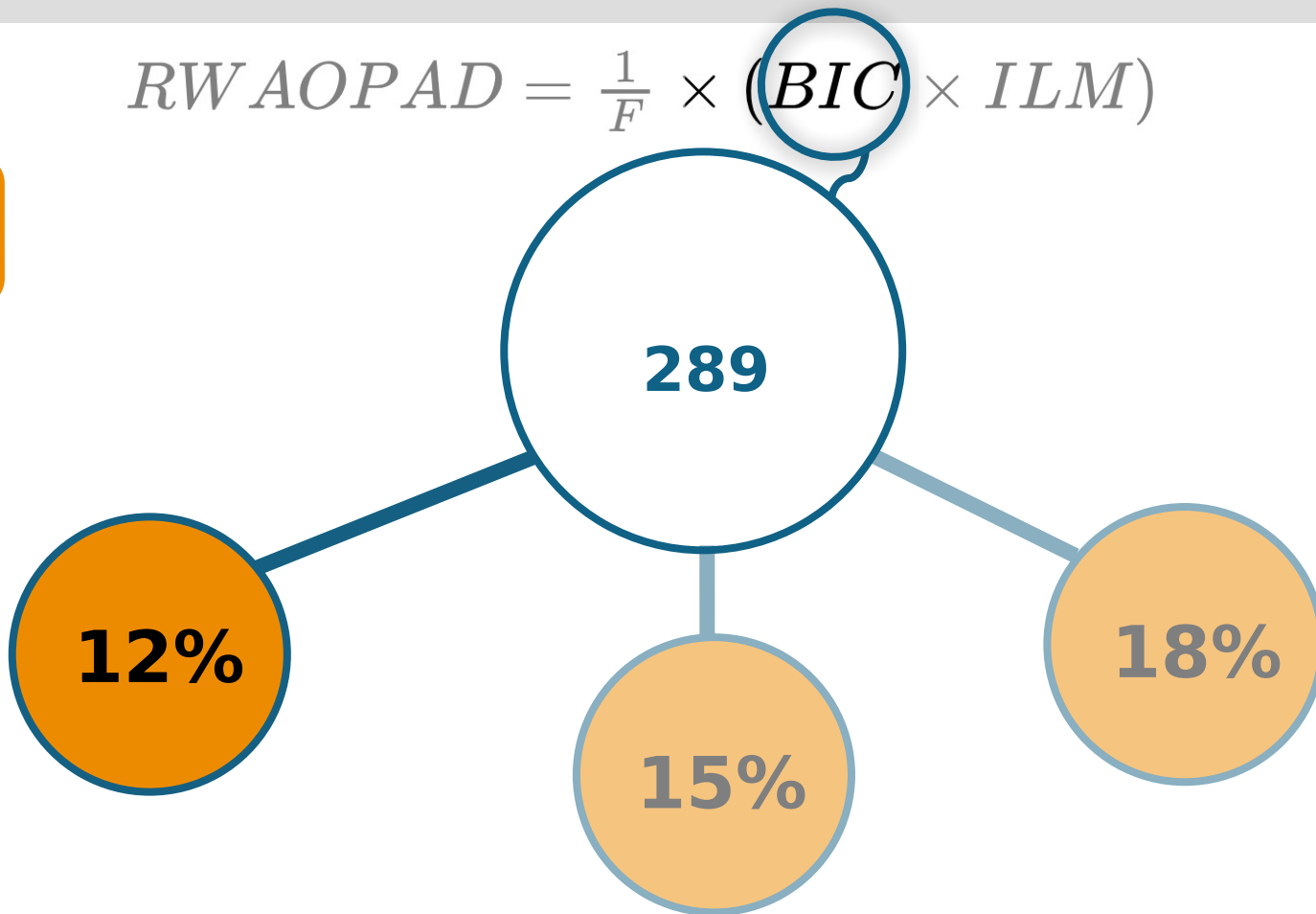
R\$ - MI



356 – Banco Prático

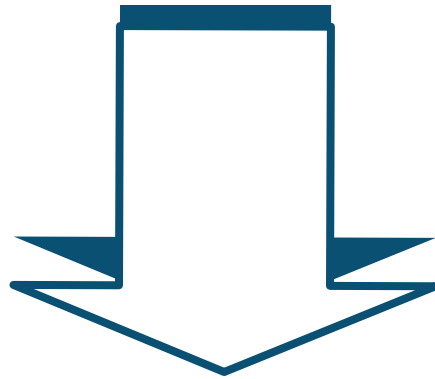
$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

R\$ - MI



$$RWAOPAD = \frac{1}{F} \times (BIC \times ILM)$$

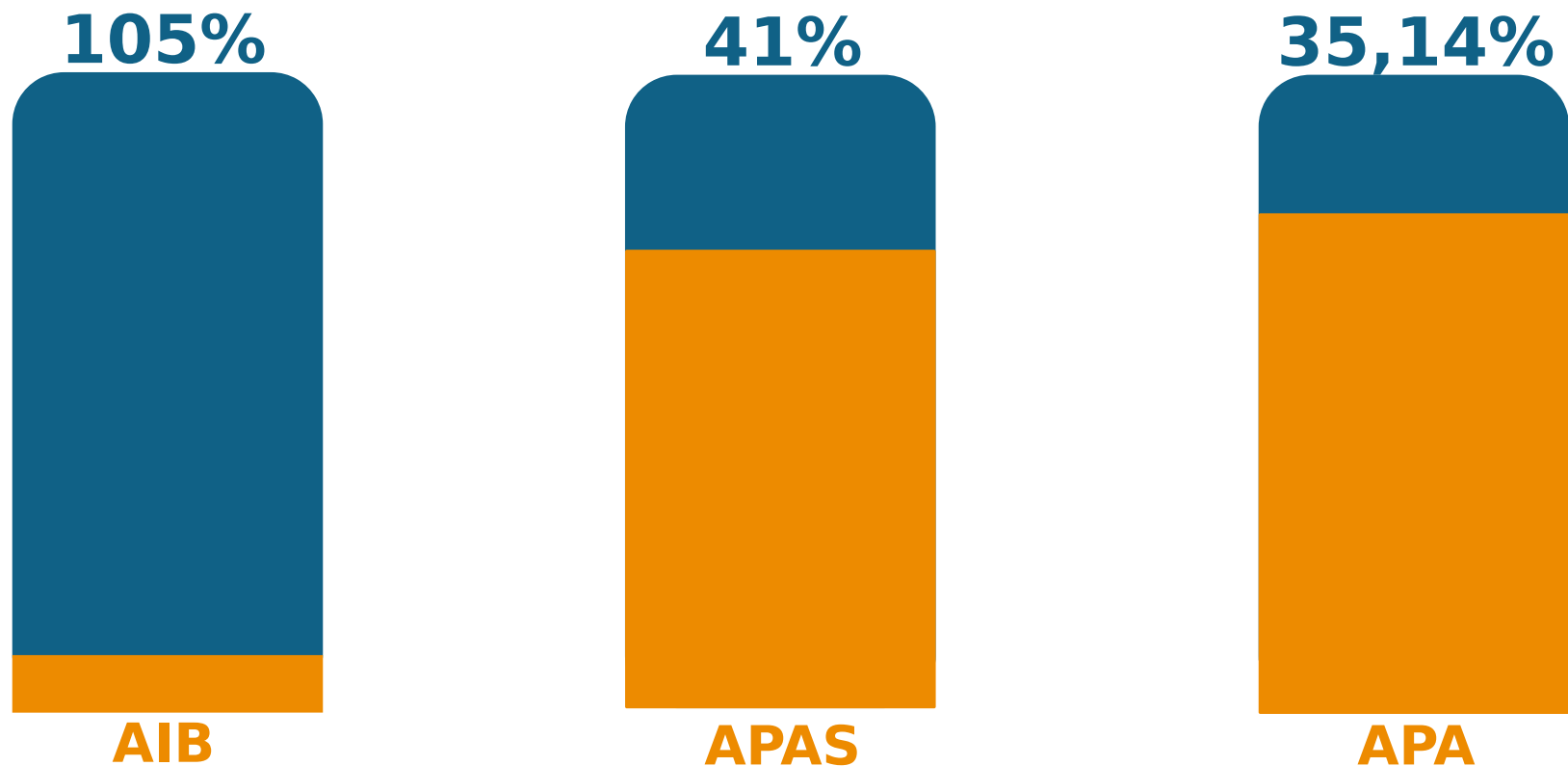
R\$ - MI



$$RWAOPAD = \frac{1}{8\%} \times (289,26 \times 1,1)$$

$$RWAOPAD = 4.032,70$$

Resultado Final - OPAD



Considerações Finais

- ✓ Abordagem única
- ✓ Linhas de Negócio sumiram...
- ✓ SC e FC como os vilões do modelo
- ✓ ILM é importante
- ✓ Conceito de amplitude é o principal ponto no modelo

Obrigado!

3º Workshop Duxus de Risco

Uma questão de controle.



OPAD 365 - Debate

Samuel Rodrigues Rios
Fábio Henrique Correa



Giane Silva