

## **Administration and management of the INVEX CONTROLADORA Company, S.A.B. of C.V.**

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### **Abstract**

INVEX emerged in 1991 as a brokerage firm and in 1992 INVEX International subsidiary is established in the United States. In 1994, the bank started operations, which is formally integrated financial group Invex. INVEX generates alternatives aim to get great results for its clients through financial solutions tailored to each individual case. It has a presence in Mexico City, Monterrey, Guadalajara and Miami, Florida. In 2004, Mexico began operations Spira, a company issuing credit cards, with a share of 50% invex. In 2007, INVEX controller is created as public stock corporation and parent company of the group. That same year, INVEX acquires the remaining 50% of Speyer and the merger between it and Banco Invex is made. This operation makes clear the interest of INVEX to enter more strongly the consumer banking market.

### **Financial Services, financial institutions, financial markets, institutions controllers' financial services**

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$$MIF = \frac{\left(\frac{MD - MI}{\text{Determinación - Depreciación}}\right)^{\text{Coverage}} \left(\frac{\text{Devaluation} + C.\text{Variable}}{\text{Forward - Exposure}}\right)^{\text{Arbitration}}}{\text{Costo de Capital Comparativo}} - \left(\frac{FCp + FMp + FLp}{\text{Not Fundable - Fundable}}\right)^{\frac{Cp+Mp}{Lp}} + \left(\frac{\text{Performance}}{\text{Utility}}\right)^{\text{Financial range}} \quad (1)$$

<b>Direct Currency (MD).</b>	<b>Counted → Swap</b>	
$MD = \left(\pi - \frac{Pmax + Pmin}{2}\right)^{\frac{1}{2}}$	$TC = \left(\frac{A.Circulación}{PPP}\right)^{\frac{1}{2}}$	<b>Long term</b>
<b>Indirect Currency (MI)</b>	<b>Coverage</b>	$F_{LP} = \left(\frac{Y-m}{C+r}\right)^{\frac{max}{min}}$
$MI = \left(\frac{\pi + Pmax}{2}\right)^{\frac{1}{2}}$	$\left(\frac{TCp}{TC}\right)^{\pi - \pi - 1}$	<b>Fundable</b>
$PPP = \frac{Pmax + Pmin}{2}$	$(TCp + TC)^{\pi}$	$\int_{min}^{max} = \int_{d(min)}^{d(max)}$
<b>Determination</b>	<b>Arbitration</b>	<b>Not Fundable</b>
$TC = (\pi_s + \pi_{\dots}) \int_{s_{t_1}}^{s_{t_2}} \lim_{\pi_s} \frac{\pi_s}{\pi_s}$	$AS = [\beta(s_1) + \beta(s_2) + \beta(s_3) + \beta(s_4)]^2$	$\int_{min}^{max} = \int_{d(max)}^{d(min)}$
<b>Depreciation</b>	<b>Comparative Cost of Capital</b>	<b>Executable</b>
$\frac{dM_1}{dL_1} + \frac{dM_2}{dL_2} + \frac{dM_3}{dL_3} + \frac{dM_4}{dL_4} + \left(\frac{dL}{dL}\right)^2$	$CCC = \left(\frac{Cp + Cp}{Cp}\right)^{\frac{1}{2}}$	$\int_{max-min}^1 = \left(\frac{dL(max-min)}{L}\right)^2$

**Figure 1**

<b>Devaluation</b>	<b>Short term</b>	
$\left(\frac{\pi_s}{\pi_s}\right)^{\frac{1}{2} - \frac{1}{2}}$	$FCp = \left(\frac{Y-m}{TC}\right)^{max}$	$Cp = \int \left[ \frac{(max - min)^2}{\left(\frac{max}{Ant} + \frac{min}{Ant}\right)^2} \right]^{\frac{1}{2}}$
<b>Advanced → Forward</b>	<b>Middle term</b>	
$TA = \left(\frac{PPP - 2}{A.Circulación}\right)^{\frac{1}{2}}$	$FMp = \left(\frac{C+m}{TC}\right)^{min}$	
	<b>Range</b>	
$Mp = \int \left[ \frac{(min + max)^2}{\left(\frac{min}{Ant} + \frac{max}{Ant}\right)^2} \right]^{\frac{1}{2}}$	$\int \left( \frac{\frac{\partial max}{\partial min Ant} : \dots}{\left(\frac{\partial min}{\partial min Ant}\right)} \right)^{\frac{1}{2} - \frac{1}{2}}$	
	<b>Variable cost</b>	
$Cp = \int \left[ \frac{(max - min)^2}{\left(\frac{max}{Ant} + \frac{min}{Ant}\right)^2} \right]^{\frac{1}{2}}$	$C_{cx} = \left(\frac{Cp - Cp}{Cp}\right)^{\pi - \frac{1}{2}}$	
<b>Performance</b>		
$R_R = \frac{d(max)}{dL_1} - \frac{d(min)}{dL_2}$		
<b>Utility</b>		
$R_U = \left[ \frac{\frac{\partial max}{\partial min Ant} : \dots}{\left(\frac{\partial min}{\partial min Ant}\right)} \right]^{\frac{1}{2}}$		

**Figure 2**

Substituting in equation (1)

$$MIF = \frac{\left(\frac{\pi - \frac{Pmax + Pmin}{2}}{(\pi_s + \pi_{\dots}) \int_{s_{t_1}}^{s_{t_2}} \lim_{\pi_s} \frac{\pi_s}{\pi_s}} - \frac{(\pi + Pmax)}{2}\right)^{\frac{Cp+Mp}{Lp}} \left(\frac{\left(\frac{\pi}{\pi_s}\right)^{\frac{1}{2}} + \left(\frac{Cp - Cp}{Cp}\right)^{\pi - \frac{1}{2}}}{\left(\frac{PPP - 2}{A.Circulación}\right)^{\frac{1}{2}} - (TCp + TC)^{\pi}}\right)^{\beta(s_1) + \beta(s_2) + \beta(s_3) + \beta(s_4)} \left(\frac{Cp + Cp}{Cp}\right)^{\frac{1}{2}}}{\left(\frac{(U-m)}{TC}\right)^{max} + \left(\frac{C+m}{TC}\right)^{min} + \left(\frac{U-m}{C+m}\right)^{\frac{TC-max}{min}} \left[ \frac{\left(\frac{max-min}{min+min}\right)^{\frac{1}{2}}}{\left(\frac{max-min}{min+min}\right)^{\frac{1}{2}}} \right]^{\frac{1}{2}} + \left(\frac{d(max)}{dL_1} - \frac{d(min)}{dL_2}\right)^{\frac{\frac{\partial max}{\partial min Ant} : \dots}{\left(\frac{\partial min}{\partial min Ant}\right)^{\frac{1}{2}}}} \left(\frac{\frac{\partial max}{\partial min Ant}}{\left(\frac{\partial min}{\partial min Ant}\right)^{\frac{1}{2}}}\right)^{\frac{1}{2}}$$

Company INVEX CONTROLADORA, S.A.B. OF CV, obtained from the BMV and the World Bank on October 28, 2015 at 12:34 hrs, for the calculation of the Model Integrator Finance (MIF).

$\lambda=0.75$	$Pmax=50$	$M2=6$	$\beta_1=0.50$
$n=0.25$	$Pmin=50$	$M3=9$	$\beta_2=0.50$
$\beta=0.50$	$\% = 0.50$	$M4=12$	$\beta=0.25$
$f=1$	$\% = 0.75$	$TCp = 16.53$	$maxAnt=47$
$d=-1$	$PPP=0$	$TC_s = \log(16.53) = 1.21$	$minAnt=45$
$\theta=0.50$	$m=2.38$	$C_{variable} = (20.72)^2 = 9.71$	$V=50$
$\xi=0.50$	$\pi_s=2.96$	$C_{FBo} = (20.72)^2 = 4.55$	$C=49$
$lim=0.10$	$\xi=0.50$	$C_{FBlat} = \frac{\sin 20.72}{\cos 20.72} = 0.37$	
$\pi = \frac{2.38}{2.96} = 0.80$	$M1=3$	$A.Circulación = \log(156,171,174) = 8.19$	

Substituting values obtained from the trading company in Eq. (2) and simplifying

$$MIF = \frac{\left(\frac{(0.80 - \frac{50 + 50}{2})^{\frac{1}{2}} - (0.80 + 0.17)^{\frac{1}{2}}}{\left[\frac{(0.28 + 2.96) \int_{s_{t_1}}^{s_{t_2}} \lim_{\pi_s} \frac{\pi_s}{\pi_s}}{2}\right]^{\frac{1}{2}} - \frac{-1(3) - -1(6) - -1(9) - -1(12) - -1(15)}{2} \left(\frac{0.80}{0.75}\right)^{\frac{1}{2}} - \frac{0.71 - 4.55}{0.37}\right)^{\frac{0.5+0.5}{1.0}} \left(\frac{(0.80)^{\frac{1}{2}} + \left(\frac{Cp - Cp}{Cp}\right)^{\pi - \frac{1}{2}}}{\left(\frac{PPP - 2}{A.Circulación}\right)^{\frac{1}{2}} - (16.53 + 16.53)^{\pi}}\right)^{\beta(s_1) + \beta(s_2) + \beta(s_3) + \beta(s_4)} \left(\frac{Cp + Cp}{Cp}\right)^{\frac{1}{2}}}{\left(\frac{(U-m)}{TC}\right)^{max} + \left(\frac{C+m}{TC}\right)^{min} + \left(\frac{U-m}{C+m}\right)^{\frac{TC-max}{min}} \left[ \frac{\left(\frac{max-min}{min+min}\right)^{\frac{1}{2}}}{\left(\frac{max-min}{min+min}\right)^{\frac{1}{2}}} \right]^{\frac{1}{2}} + \left(\frac{d(max)}{dL_1} - \frac{d(min)}{dL_2}\right)^{\frac{\frac{\partial max}{\partial min Ant} : \dots}{\left(\frac{\partial min}{\partial min Ant}\right)^{\frac{1}{2}}}} \left(\frac{\frac{\partial max}{\partial min Ant}}{\left(\frac{\partial min}{\partial min Ant}\right)^{\frac{1}{2}}}\right)^{\frac{1}{2}}$$

(3)

$$MIF = \frac{\left\{ \frac{(-7.01) - (0.50)}{[(5.34)(12-3)(0.10)(0.80)] - [4 + 8 + 12 + 16 + (-4)^{0.25}]} \right\}^{(13.66)^{0.22}} \left[ \frac{0.94 + (13.94)^{0.20}}{(-0.24)^{0.75} - (17.74)^{2.33}} \right]^{1.89}}{\left( \frac{9.71 + 0.37}{4.55} \right)^{0.75} - \left( \frac{4.83 \times 10^{23} + 8.86 \times 10^{23} + 0.82}{1-0} \right) \left\{ \frac{\left( \frac{(i)}{(129.72)} \right)^2 - (i) \left[ \frac{10}{-1.68} \right]^2}{\left( \frac{(i)}{(18.09)} \right)^2} \right\}^2} + \left\{ \frac{66.66 - 66.66}{\left[ \frac{25-25}{123.50-22.50} \right]^{0.22}} \right\} \left[ \frac{(-10.63)^{0.50} \cdot 2}{(-11.11)^{0.75}} \right]^2 \quad (4)$$

$$MIF = \frac{\left( \frac{-7.51}{3.84 - 38.59} \right)^{0.21} \left( \frac{3.14}{-0.34 - 938.66} \right)^{1.89}}{(2.21)^{0.75}} - (1.36 \times 10^{24}) \left[ \frac{(29.70)^2 + (-1.68-10)^2}{(18.09-6.98)^2} \right]^2 + \left[ \frac{0}{(-6.08)^2} \right]^{\left( \frac{0}{46} \right)^{0.25}}$$

$$MIF = \frac{(0.21)^{0.21} (-3.34 \times 10^{-3})^{1.89}}{1.81} - (1.36 \times 10^{24}) \left( \frac{1019.51}{123.87} \right)^2 + \left[ \frac{0}{(0.53)^2} \right]^0$$

$$MIF = \frac{0.72(-2.08 \times 10^{-5})}{1.81} - (1.36 \times 10^{24})^{(8.22)^2} + \left\{ \frac{0}{0.28} \right\}^0$$

$$MIF = \frac{-1.49 \times 10^{-5}}{1.81} - (1.36 \times 10^{24})^{67.56} + 0$$

$$MIF = (-8.27 \times 10^{-6}) - (1.36 \times 10^{24})^{67.56} + 0$$

$$MIF = |8.27 \times 10^{-6}| = 0.00000827 \quad (5)$$

**1st iteration**

0.00000827 (100) = 0.000827

**The 2nd iteration**

0.000827 (100) = 0.0827

**The 3rd iteration**

0.0827 (100) = 8.27

$$\frac{8.27(100)}{100} = \mathbf{8.27\%} \quad (6)$$

Through the Financial Integrator Model (NIF) is determined that the percentage of financial activity of the issuing company INVEX CONTROLLER, SAB DE CV, represents 8.27% of our national economy in Mexico, holding an exchange rate of 16.53, 2.96 and inflation still trading in the Mexican financial market.

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