

within the zone are then netted, resulting in a single net long or short position for each zone. Since different instruments and different maturities may be included and netted within each zone, an addition to the risk measure, referred to as the horizontal disallowance, is assessed to allow for the imperfect correlation of interest rates along the yield curve. The horizontal disallowance is calculated as a percentage of the position eliminated by the intra-zone netting, that is, a percentage of the smaller of the net risk-weighted long or net risk-weighted short position, or if the positions are equal, a

percentage of either position.<sup>25</sup> The percent disallowance factors for intra-zone netting are set out in table 2. The horizontal disallowances, like the vertical disallowances, are absolute values that are summed and included as an element of the general market risk element.

h. Next, risk-weighted long and short positions in different zones are then netted between the zones. Zone 1 and zone 2 are netted if possible, reducing or eliminating the net long or short position in zone 1 or zone 2 as appropriate. Zone 2 and zone 3 are then netted if possible, reducing or eliminating the

net long or short position in zone 2 or zone 3 as appropriate. Zone 3 and zone 1 are then netted if possible, reducing or eliminating the long or short position in zone 3 and zone 1 as appropriate. A horizontal disallowance is then assessed, calculated as a percentage of the position eliminated by the inter-zone netting. The horizontal disallowances for each zone are then summed as absolute values and included in the general market risk element. The percent disallowance factors for inter-zone netting are set out in Table 2:

TABLE 2.—HORIZONTAL DISALLOWANCES

Zone	Time band	Within the zone (percent)	Between adjacent zones (percent)	Between zones 1 & 3 (percent)
1 .....	0–1 month .....	40	40	100
	1–3 months.			
	3–6 months.			
	6–12 months.			
2 .....	1–2 years .....	30	40	100
	2–3 years.			
	3–4 years.			
3 .....	1–5 years .....	30	40	100
	5–7 years.			
	7–10 years.			
	10–15 years.			
	15–20 years.			
	over 20 years.			

i. Finally, the net risk-weighted long or net risk-weighted short positions remaining in the zones are summed to reach a single net risk-weighted long or net risk-weighted short position for the bank's portfolio. The sum of the absolute value of this position and the vertical and horizontal disallowances is the general market risk element of the measure of market risk. An example of this calculation is in attachment II to this appendix.

j. In the *duration method*, the bank, after calculating each instrument's modified duration<sup>26</sup> using a formula that is subject to FDIC review, multiplies that modified duration by the interest rate shock specified for an instrument of that duration in table 3. The resulting product (representing the expected percentage change in the price of the instrument for the given interest rate shock) is then multiplied by the current market value of the instrument. The resulting amount is then allocated as a long or short position into a time band in the maturity ladder in table 3 on the basis of the instrument's modified duration.<sup>27</sup>

k. Once all of the bank's traded debt instruments have been allocated into the maturity ladder, the bank conducts the same rounds of netting and disallowances described in paragraphs A.2.f. through h. of the maturity method in this section, with the

exception that the vertical disallowance requirement for the duration method is 5.0 percent. Horizontal disallowances continue to be those set out in table 2. As with the maturity method, the sum of the absolute value of the final net position and the vertical and horizontal disallowances is the general market risk element of the measure for market risk:

TABLE 3.—DURATION METHOD: TIME BANDS AND ASSUMED CHANGES IN YIELD

Zone	Time band	Assumed change in yield
1 .....	Up to 1 month .....	1.00
	1 up to 3 months .....	1.00
	3 up to 6 months .....	1.00
	6 up to 12 months .....	1.00
2 .....	1.0 up to 1.8 years ....	0.90
	1.8 up to 2.6 years ....	0.80
	2.6 up to 3.3 years ....	0.75
3 .....	3.3 up to 4.0 years ....	0.75
	4.0 up to 5.2 years ....	0.70
	5.2 up to 6.8 years ....	0.65
	6.8 up to 8.6 years ....	0.60
	8.6 up to 9.9 years ....	0.60

TABLE 3.—DURATION METHOD: TIME BANDS AND ASSUMED CHANGES IN YIELD—Continued

Zone	Time band	Assumed change in yield
	9.9 up to 11.3 years ..	0.60
	11.3 up to 16.6 years ..	0.60
	Over 16.6 years 0.75 .	0.60

3. *Interest Rate Derivatives.* a. Debt derivatives and other off-balance-sheet positions that are affected by changes in interest rates are included in the measurement system under this section IV.A. (except for options and the associated underlyings, which are included in the measurement system under the treatment discussed in section IV.E. of this appendix C). A summary of the treatment for debt derivatives is set out in Attachment III to this appendix C.

b. Derivatives are converted into positions in the relevant underlying instrument and are included in the calculation of the specific and general market risk elements. The amount to be included is the market value of the principal amount of the underlying or of

<sup>25</sup> For example, if the sum of the weighted longs in the 1–3 month time band in Zone 1 is \$8 million and the sum of the weighted shorts in the 3–6 month time band is \$10 million, the horizontal disallowance for the zone is forty percent of \$8 million, or \$3.2 million.

<sup>26</sup> The duration of an instrument is its approximate percentage change in price for a 100

basis point parallel shift in the yield curve assuming that its cash flow does not change when the yield curve shifts. Modified duration is duration divided by a factor of 1 plus the interest rate.

<sup>27</sup> For example, an instrument held by a bank with a maturity of 4 years and 3 months and a current market value of \$1,000 might have a modified duration of 3.5 years. Based on its

modified duration, it would be subjected to the 75-basis point interest rate shock, resulting in an expected price change of 2.625 percent ( $3.5 \times 0.75$ ). The corresponding expected change in price of \$26.25, calculated as 2.625 percent of \$1,000, would be slotted as a long position in the 3.3 to 4.0 year time band of the maturity ladder.