Request statement option Zero

Usage: Include Zero (case does not matter) anywhere among the options of the Request statement – after Request and before the semicolon that terminates the statement.

Note: Zero only has an effect when the Request statement option Short is also used.

The Zero option selects an automatic adjustment to the weights of short and long security-events to produce a zero-net-investment portfolio. The default when Short is used, but neither Zero nor the EvtStudy statement option ValueWeightSample is used, is for each security-event to receive equal absolute weight regardless of whether it is held short or long. The Short option reverses the sign of the return for short security-events, implicitly making the portfolio weight negative. Thus, if there are unequal short and long subsample sizes, the total portfolio weight can be positive or negative. When the Zero option is used, each of the two subsamples has an absolute aggregate weight of 1, producing a zero net-investment portfolio even with an unbalanced short-long distribution.

When the Short option and the EvtStudy statement option ValueWeightSample (with or without =Update) are used, but Zero is not, each security-event receives an absolute weight in proportion to its market value (market cap) regardless of whether it is long or short. Thus, if the short and long subsamples have unequal total market values, the total portfolio weight can be positive or negative. When the Zero option is used, the two subsamples are weighted equally to each other, producing a zero net-investment portfolio even with an unbalanced short-long market value distribution. The combination of ValueWeightSample and Zero produces value weighting within the short subsample and within the long subsample separately. The WeightSample option combined with Zero similarly applies the specified weighting separately within the two subsamples. If the ValueWeightSample=Update option is in use, then the weight is recalculated for each day or month, and window, in event time, or for each calendar-time portfolio.

With non-calendar-time methods, when ValueWeightSample=Update is not used, missing returns within the time series of an otherwise usable security can cause deviations from the equal weighting of the short and long subsamples. This is because the short-long balance is produced using an internal adjustment factor for unequal sample sizes or unequal static market values. In the situations stated, the adjustment factor is computed only once based on the day or month, etc. having the fewest missing returns. If this is of concern, you can use the EvtStudy statement option MaxMiss=0 to exclude securities with any missing returns during the event period from the sample. This caution does not apply to calendar-time methods, nor does it apply to non-calendar time methods when ValueWeightSample=Update is used. In these situations, the adjustment factor dynamically adapts to a changing sample size.

With calendar-time methods, a zero net investment portfolio cannot be constructed for a calendar date unless there is at least one long and one short security with returns. Check the SAS log produced by Eventus for messages about dates for which no calendar-time portfolio is possible.

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The table below provides more details about the Short option without and with Zero and sample weighting options.

Item being Computed	Set for Weighting when Zero Option is Absent / Present	Absolute Weight within Set			
		No Sample Weight Option Used	ValueWeightSample	ValueWeightSample = Update	WeightSample
Portfolio return in calendar-time portfolio regression	Securities with non-missing return for calendar day or month (or other interval) t / Securities with non-missing return for t with the same S or L indicator	1/N where N is the number of securities in the set	Closing market value as of the period before the period when the security is first included in a calendar-time portfolio, divided by the sum of such values across the set	Closing market value as of t−1, divided by the sum of such values across the set	User-provided weight value, divided by the sum of such values across the set
Mean abnormal return for day or month (or other interval) t, where t is the number of trading days or months (etc.) relative to the event date in two-step event study (twostep option explicitly specified, or implied for default market model or CP, MAR or Raw option), except Jaffe-Mandelker type	Securities with non-missing return for t / Securities with non-missing return for t with the same S or L indicator	1/N where N is the number of securities in the set	Closing market value as of the last period preceding the event period, divided by the sum across the set of such values	Closing market value as of t−1, divided by the sum across the set of such values	User-provided weight value, divided by the sum across the set of such values
Window w (specified on the Windows statement) mean cumulative or buy-and-hold abnormal return in two-step event study (twostep option explicitly specified, or implied for default market model or CP, MAR or Raw option), except Jaffe-Mandelker type	Securities with at least one non-missing return in w / Securities with at least one non-missing return in w and with the same S or L indicator	1/N where N is the number of securities in the set	Closing market value as of the last day or month (etc.) preceding the event period, divided by the sum across the set of such values	Closing market value as of the day or month (etc.) immediately preceding w, divided by the sum across the set of such values	User-provided weight value, divided by the sum of such values across the set

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Item being computed	Set for Weighting when Zero Option is Absent / Present	Absolute Weight within Set			
		No Sample Weight Option Used	ValueWeightSample	ValueWeightSample = Update	WeightSample
Mean abnormal return for day or month (or other interval) t, where t is the number of trading days or months (etc.) relative to the event date in Jaffe-Mandelker type two-step event study (CTHSC, CTJM, CTLBT, or CTMOD option)	Securities having the same calendar event date d, with non-missing return for t / Securities having the same calendar event date d and the same S or L indicator, with non-missing return for t	1/N where N is the number of securities in the set	Closing market value as of the last period preceding the event period, divided by the sum across the set of such values	Closing market value as of t−1, divided by the sum across the set of such values	User-provided weight value, divided by the sum of such values across the set
Window w (specified on the Windows statement) mean cumulative or buy-and-hold abnormal return in in Jaffe-Mandelker type two-step event study (CTHSC, CTJM, CTLBT, or CTMOD option)	Securities having the same calendar event date d, with at least one non-missing return in w / Securities having the same calendar event date d and the same S or L indicator, with at least one non-missing return in w	1/N where N is the number of securities in the set	Closing market value as of the last day or month (etc.) preceding the event period, divided by the sum across the set of such values	Closing market value as of the day or month (etc.) immediately preceding w, divided by the sum across the set of such values	User-provided weight value, divided by the sum of such values across the set

Last updated June 25, 2018