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Addendum 1\* to the CRI Technical Report (Version: 2017, Update 1)

This addendum updates the Addendum 1 concerning "The CRI Systemically Important Financial Institution (CriSIFI)". From January 16, 2018, the following treatments are carried out in constructing the credit cycle indices (CCIs).

In addition to the one pair (PD and POE) of global factors and ten pairs of industry factors, we now add one pair of predetermined economy factors for each economy of domicile. Adding the new factors is motivated by our study, which shows that they improve the explanatory power of the factor model substantially. Following the same manner as the previous eleven pairs, the new economy factors are first defined as one-month, logit-transformed, median PD and POE. Next, they are regressed on the pair of the global factors with mean zero and variance one and then normalized to have a standard deviation of one (see Section I of Addendum 1).

When constructing the economy factors at a certain time spot, we require that at least 30 observations should be available in the economy of domicile in order to sufficiently reflect its general credit market condition. If the requirement is not met, we use the median PD/POE pair of the aggregation (geographic) group — Asia (Developed), Asia (Emerging), North America, Europe, Latin America & Caribbean, Sub-Saharan Africa, or Middle East, North Africa & Central Asia — as a substitution. Note that, in cases where an economy has sufficient observations (equal or more than 30) in the history but not later on, we continue to use the economy median. If the economy has fewer observations earlier on but sufficiently large later, we allow the switch from the group median to the economy median to happen but for only once. These special treatments aim to free the economy factors (or their proxies) from frequent fluctuation.

## References

Credit Research Initiative, 2017, "Version 2017 Update Addendum 1: The CRI Systemically Important Financial Institution (CriSIFI)," National University of Singapore.