Division of Corporation Finance Guidance on Calculation of Pay Ratio Disclosure

September 21, 2017

In 2015, the Commission adopted a rule that requires a registrant to disclose the ratio of the compensation of its principal executive officer (PEO) to the median employee's compensation as mandated by the Dodd-Frank Act.[1] Item 402(u) of Regulation S-K sets forth the disclosure requirements and provides registrants with substantial flexibility to determine the pay ratio. For example, Instruction 4.1 to Item 402(u) provides that registrants may use reasonable estimates both in the methodology used to identify the median employee and in calculating the annual total compensation or any elements of total compensation for employees. Additionally, Instruction 4.2 permits a registrant to use its employee population or statistical sampling and/or other reasonable methods in determining the median employee.

In the adopting release for the pay ratio rule, the Commission expressly sought to provide flexibility to registrants by not specifying the "other reasonable methods" that may be appropriate, allowing each registrant to determine the method that best suits its own facts and circumstances.[2] The rule also provides for flexibility in setting the parameters of the statistical sampling method. In the adopting release, the Commission explained that registrants are permitted to make determinations based on their facts and circumstances and declined to specify requirements for statistical sampling, such as appropriate sample sizes, confidence levels, or other requirements, to avoid unduly constraining registrants from developing the most appropriate methodology.[3]

While providing broad flexibility, the Commission made clear that registrants must determine their own median and may not use industry estimates, such as the employee earnings estimates provided by the Bureau of Labor Statistics, as a substitute for determining their median.[4] Additionally, the Commission clarified that a registrant seeking to use a lognormal distribution assumption in its statistical analysis can do so if it determines that the use of the assumption is appropriate given its compensation distributions.[5]

In order to assist registrants in determining how to use statistical sampling methodologies and other reasonable methods, we are providing the following guidance and hypothetical examples of use of sampling and other reasonable methodologies. [6]

1. May registrants combine the use of reasonable estimates with the use of statistical sampling or other reasonable methodologies? For instance, is a registrant with multinational operations or multiple business lines permitted to use sampling for some geographic/business units and a combination of other methodologies and reasonable estimates for other geographic/business units?

Yes. Instruction 4.2 to Item 402(u) expressly provides that:

> In determining the employees from which the median employee is identified, a registrant may use its employee population or statistical sampling and/or other reasonable methods.

The use of "and/or" in the Instruction indicates that a registrant is permitted to use statistical sampling, other reasonable methods or a combination of statistical sampling and other reasonable methods. Further, in adopting the "other reasonable methods" language, the Commission indicated that it did not specify "other reasonable methods" that may be appropriate to allow each registrant the flexibility to determine the method that best suits its own facts and circumstances.[7]

2. What are some examples of sampling methods that registrants may use? Are registrants permitted to use a combination of sampling methods?

Yes. When adopting the pay ratio disclosure rule, the Commission expressly sought to provide flexibility to registrants in determining their sampling methods. Instruction 4 to Item 402(u) does not set forth specific limitations regarding the methods of sampling that are permissible. Rather, the instruction provides that registrants must use reasonable methods and make reasonable estimates. For example, the Commission expressly stated in the adopting release "that reasonable estimates of the median for registrants with multiple business lines or geographical units may be determined using more than one statistical sampling approach. Additionally, all statistical sampling approaches should draw observations from each business or geographical unit with a reasonable assumption on each unit's compensation distribution and infer the registrant's overall median based on the observations drawn."[8]

Some examples of the sampling methods that could be appropriate to use (alone or in combination), depending on the registrant's particular facts and circumstances include, but are not limited to:

- simple random sampling (drawing at random a certain number or proportion of employees from the entire employee population);
- stratified sampling (dividing the employee population into strata, e.g., based on location, business unit, type of employee, collective bargaining agreement, or functional role and sampling within each strata);
- cluster sampling (dividing the employee population into clusters based on some criterion, drawing a subset of clusters, and sampling observations within appropriately selected clusters; cluster sampling may be conducted in one stage or multiple stages); and
- systematic sampling (the sample is drawn according to a random starting point and a fixed sampling interval, every n^{th} employee is drawn from a listing of employees sorted on the basis of some criterion).

3. What are some examples of situations where registrants may use reasonable estimates?

Instruction 4.1 to Item 402(u) provides that:

> [R]egistrants may use reasonable estimates both in the methodology used to identify the median employee and in calculating the annual total compensation or any elements of total compensation for employees other than the PEO.

Some examples of situations where registrants may use reasonable estimates under the appropriate facts and circumstances, include, but are not limited to:

- analyzing the composition of the company's workforce (by geographic unit, business unit, employee type);
- characterizing the statistical distribution of compensation of the company's employees and its parameters (e.g., a lognormal, beta, gamma or another distribution, or a mixture of distributions—for example a mixture of two normal or lognormal distributions yielding a bimodal distribution);

- calculating a consistent measure of compensation and annual total compensation or elements of the annual total compensation of the median employee;
- evaluating the likelihood of significant changes in employee compensation from year to year;
- identifying the median employee;
- identifying multiple employees around the middle of the compensation spectrum; and
- using the mid-point of a compensation range to estimate compensation.

4. What are some examples of other reasonable methodologies a registrant may use? May registrants use a combination of reasonable methodologies?

Instruction 4.2 to Item 402(u) permits registrants to use other reasonable methods in determining the employees from which the median employee is identified. As addressed in the adopting release and noted above, Item 402(u) does not specify any required methodology and permits registrants flexibility to choose a method or combination of methods based on their facts and circumstances. Any method or combination of methods used would need to be reasonable. Some examples of common statistical techniques and methodologies registrants may consider, include, but are not limited to:

- making one or more distributional assumptions, such as assuming a lognormal or another distribution provided that the company has determined that the use of the assumption is appropriate given its own compensation distributions;
- reasonable methods of imputing or correcting missing values; and
- reasonable methods of addressing extreme observations, such as outliers.

5. Hypothetical examples of the use of reasonable estimates, statistical sampling and other reasonable methods

The examples below are illustrative of the principles that a registrant may consider when using reasonable estimates, statistical sampling and other reasonable methods to identify its median employee. Application of the principles should be tailored to a specific registrant's facts and circumstances. In addition, the use of estimates, statistical sampling, and other methods must be reasonable. Some of the techniques referenced in the examples below may be more suitable for larger registrants with more complex workforces. The examples are not meant to suggest that registrants follow any particular approach and, in many cases, simpler approaches may be appropriate in determining the pay ratio.

Company A has employees in the U.S. and outside the U.S. within three business units and 21 geographic units, covered by multiple payroll systems.

- One approach would be for the company to perform sampling from each of the three business units. In obtaining samples of compensation data from each of the three business units, the company selects samples from the geographic locations whose employee pay is generally representative of employee pay within the entire business unit.

Company B has a global workforce with employees concentrated in the following geographic units: North America, China, Europe, and Latin America units.

- The company may use a combination of statistical sampling and other methods to identify the median.
- Where statistical sampling is used, the sampling method may be chosen so as to be reasonably representative of the employee population, based on the company's knowledge of the workforce distribution across jurisdictions, composition of full-time and part-time employees, distribution of employees among typical occupations, and the company's pay structures for typical occupations.
- Within the North America geographic unit, the company employs mostly management and administrative employees at headquarters and a workforce consisting mostly of sales employees in 25 other cities. The company identifies the most common occupations of employees working at headquarters and draws a stratified random sample of headquarters employees other than the PEO in those occupations. Almost all employees outside headquarters are sales employees. Based on its understanding of employee pay outside headquarters, the company identifies three cities in which the distribution of employee pay and full-time and part-time employees is reasonably representative of the distribution of pay of employees outside headquarters. In those cities, the company randomly selects stores, from which a random sample of sales employees is drawn.
- For employees in the Europe geographic unit, the company draws a stratified random sample of employees in typical occupations identified based on the company's knowledge of its workforce and pay structure. Employees in the sample include managers, administrative personnel, service employees, and sales staff.
- For the China geographic unit, the company uses a sample of full-time and part-time employees reasonably believed to be around the middle of the pay scale.
- For the Latin America geographic unit, the information is drawn under a distribution assumption.
    - Based on the understanding of pay practices and workforce composition, employee pay in the Latin America unit is estimated to follow a lognormal distribution.
    - For example, the company may use reasonable estimates provided by regional managers to determine distribution parameters. Where pay ranges were considered, the mid-point of the pay range is used.
- To identify the median employee, the company combines information from the North America, China, Europe, and Latin America geographic units, obtained as described above.

Company C has employees in the U.S. and Asia.

- Based on the company's information about its workforce composition and compensation policies, the company reasonably believes the distribution of employee compensation to be multimodal and approximately characterized as a mixture of lognormal distributions, weighted based on estimated workforce composition. The median may be identified based on the resulting distribution mixture.
- As an example, the company may identify four main cohorts of workers: full-time employees in the U.S.; part-time employees in the U.S.; full-time employees in Asia; and part-time employees in Asia.
    - For the U.S. employees, distribution assumptions are based on data regarding pay levels and hours of a typical full-time and part-time employee at the company.
    - For international workers, distribution parameters are based on reasonable estimates of a typical full-time and part-time employee's pay provided by regional managers.

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[1] See Pay Ratio Disclosure, Release No. 33-9877 (Aug. 5, 2015) [80 FR 50103 (Aug. 18, 2015)].

[2] Id. at 50135.

[3] Id. at 50136.

[4] Id. at 50137.

[5] Id. at 50168 n.628. The adopting release provides: "While one commenter suggested that the final rule permit a registrant to determine the median employee based on an assumption that compensation is lognormally distributed within a company or unit, we believe that registrants can and thus should determine for themselves whether the use of a lognormal assumption is appropriate given their own compensation distributions… . The final rule does not specify any required methodology for registrants to use in identifying the median employee and permits registrants the flexibility to choose a method to identify the median employee based on their own facts and circumstances so long as a registrant's methodology uses reasonable estimates. Indeed, more generally, we believe that it is appropriate for registrants to make their own determinations about whether a particular methodological assumption constitutes a reasonable estimate for their particular firms."

[6] The statements in this staff guidance represent the views of the Division of Corporation Finance, and were developed in consultation with the Division of Economic and Risk Analysis.

[7] Id. at 50135.

[8] Id. at 50136.

Modified: Sept. 21, 2017