Dear Members of the Management Board,

De Nederlandsche Bank N.V. (DNB) has noticed that increasing numbers of financial undertakings, industry-wide pension funds and company pension funds under DNB’s supervision (afterwards the supervised institution) are considering whether the introduction of cloud computing would benefit their operations.

By means of this circular, DNB intents to draw your attention to the prudential statutory and subsidiary legislation relevant to the subject of cloud computing.

**DNB’s point of view**
DNB is of the opinion that cloud computing involving third-party services, for instance the storage and processing of data, qualifies as a form of outsourcing.

As a consequence, when using third-party cloud computing services, the supervised institution is subject to the legal requirements that apply to outsourcing:
- risks must be demonstrably known and mitigated, and
- outsourcing to third parties may not obstruct supervision.

Before a supervised institution proceeds to engage in cloud computing, DNB expects to be informed of this prospective outsourcing arrangement. DNB will ask the supervised institution to submit its risk analysis concerning cloud computing for assessment in the context of risk-based supervision.

**Background**
There are many definitions of cloud computing, however for this circular, DNB defines cloud computing as an on-demand service model for the provision of IT services, often based on virtualisation techniques and distributed computer environments.

Parties may use cloud technology to make their IT more scaleable and elastic, but the technology may also be used to purchase IT services (e.g. storage, applications, email) in standardised format and on demand from specialised service providers, using a shared infrastructure. The Internet
techniques used may imply that your data and applications may reside and be retrieved from virtually anywhere in the world.

It is this latter form of cloud computing that is the (primary) topic of this circular, since it involves several additional risks and challenges. Where does your data physically reside? Who has access to your data? How can you verify this? How do you get assurance that your cloud service provider processes your data in line with your requirements? How, after the agreement is terminated, can you repossess your data?

**Outsourcing**

Current prudential statutory and subsidiary legislation provides that supervised institutions must ensure that operational processes and risks are under control. This requirement applies undiminished whether or not a supervised institution outsources essential processes to a third party, for instance by outsourcing IT services through cloud computing. If the arrangement qualifies as outsourcing, the supervised institution must ensure, among other things, that the third party provides the contracted services in a context of sound and controlled operations.

**Risk analysis and control**

Furthermore, supervised institutions must analyse and sufficiently mitigate risks. This also applies to operational processes that are (partly) outsourced to a third party. In line with statutory requirements, DNB assumes the supervised institutions are able to produce a coherent risk analysis before they decide to outsource operational (IT) processes. Such a risk analysis should encompass in any case an assessment regarding compliance with current legislation, regarding the mutual understanding about the services offered (the agreement), regarding the stability and reliability of the service provider, regarding the location where the services are to be provided, and regarding the importance of and reliance on the outsourced IT services and/or IT components. In case of cloud computing, this requires explicit attention to risks associated with, among other things, data integrity, data confidentiality and data availability. Also, assurance must be obtained as regards the location where the business data are to be processed and stored. In the event of stopping the use of third party services, the supervised institution must secure all data and verify that all data has been removed from the third party’s systems.

**Outsourcing to third parties should not obstruct supervision.**

The statutory and subsidiary legislation regarding outsourcing requires that outsourcing of processes to third parties should not obstruct supervision by DNB. Furthermore, a supervised institution must, at a minimum,

- pursue an adequate policy, and have adequate procedures and measures in place, regarding the outsourcing of processes on a structural basis.
- record in writing the agreement with the third party regarding the structural outsourcing of processes.

This agreement must, at a minimum, provide for:

- the possibility for supervisors to perform, directly or by proxy, examinations on the premises of the third party;
- the mutual exchange of information and, by request, the provision of relevant information to supervisors;
- the power on the part of the supervised institution to modify at any time the manner in which the outsourced processes are performed;
- an obligation on the supervised institution to comply at all times with all legal requirements;
o the manner in which the agreement is to be terminated and the guarantee(s) provided to enable the supervised institution to resume performance of the outsourced processes, or to outsource their performance to another third party, upon termination of the agreement.

Questions and further information
For any questions regarding the above, please contact supervisor Ms M.J. Chilvers (m.j.chilvers-van.der.kruk@dnb.nl), or Mr E. Koning (e.koning@dnb.nl).

Yours sincerely,
De Nederlandsche Bank NV

Ms F. de Vries                        Mr E. Koning
Division Director                      Head of Department