1006-16-124   **Hans–Bjørn Foxby***, Matematisk Afdeling, Universitetsparken 5, DK 2100 Copenhagen Ø, Denmark. *Flat dimensions under base changes.* Preliminary report.

Let x be a central regular element in an associative ring R. The weak global dimension $\mathrm{wgldim}R$ is then proved to be closely related to the maximum of $\mathrm{wgldim}R/xR$ plus 1 and $\mathrm{wgldim}R_x$; the last ring consists of fractions with denominators x^n. When R is Noetherian, this was proved by Li, Van den Bergh, and Van Oystaeyen. The key ingredient in the present proof is to associate to any module M over R, a bounded complex $\overline{M}$ of modules over R/xR, and to establish that the flat dimension $\mathrm{fd}_R M$ equals the maximum of $\mathrm{fd}_{R/xR}\overline{M}$ and $\mathrm{fd}_{R_x} M_x$. There are similar formulae for other dimension concepts, for example, for the Gorenstein flat dimension. This is joint work with Torrecillas and Yassemi. (Received February 14, 2005)