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Ultra-slow spreading ridges and oceanization at slowly rifted margins.

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Based on on observations at the ultra-slow Southwest Indian Ridge (SWIR), we address the following issues : - the spreading rate control on melt supply ; - the relationship between melt supply and tectonic asymmetry ; - and the role of magmatic injections on the localization of weakness zones in the lithosphere. For the first issue, we show evidence for a strong role of mantle temperature, composition, and possibly also mantle dynamics, as co-factors, with spreading rates, that control melt production in the mantle. For the second and third issues, we stress the importance of melt : how much there is, and where it goes, on the thermal structure and rheology of the lithosphere. We discuss the possible relevance of these conclusions for studies of the oceanization process at slowly rifted continental margins.