Invariant measures for $\mathscr{B}$-free systems

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Assume that $\mathscr{B} = \{b_1, b_2, \ldots\} \subset \{2, 3, \ldots\}$ is such that

$$(b_i, b_j) = 1 \text{ whenever } i \neq j \text{ and } \sum_{i \geq 1} 1/b_i < +\infty. \tag{1}$$

For example, we can take $\mathscr{B} = \{p_i^2 : i \geq 1\}$, where $p_i \in \mathscr{P}$ stands for the ith prime number. To $\mathscr{B}$ we associate a two-sided sequence $\eta \in \{0,1\}^{\mathbb{Z}}$ by setting

$$\eta(n) := \begin{cases} 1 & \text{if } b_i \nmid n \text{ for all } i \geq 1, \\ 0 & \text{otherwise.} \end{cases}$$

Let

$$X_\eta := \{y \in \{0,1\}^{\mathbb{Z}} : \text{each block occurring on } y \text{ occurs on } \eta\}$$

and let S stand for the shift transformation on $\{0,1\}^{\mathbb{Z}}$. Notice that X_η is closed and S-invariant, i.e. X_η is a subshift. We call X_η the *$\mathscr{B}$-free subshift.* During my talk I will provide a description of the set of all invariant measures on X_η.