1124-60-360 **Santanu Chakraborty*** (santanu.chakraborty@utrgv.edu), School of Math and Stat Sciences, University of Texas Rio Grande Valley, 1201 West University Drive, Edinburg, TX 78539. *Limit Distributions of Products of I.I.D. Random 2×2 Stochastic Matrices: a Special Situation.*

Consider a sequence $(X_n)_{n\geq 1}$ of i.i.d. 2×2 stochastic matrices with each X_n distributed as μ. This μ is described as follows. Let (C_n, D_n) denote the first column of X_n and for a given real r with $0 < r < 1$, let $r^{-1}C_n$ and $r^{-1}D_n$ be each Bernoulli with parameters p_1 and p_2 respectively, $0 < p_1, p_2 < 1$ (which means, $C_n \sim p_1\delta_{\{r\}} + (1 - p_1)\delta_{\{0\}}$ and $D_n \sim p_2\delta_{\{r\}} + (1 - p_2)\delta_{\{0\}}$). Thus (C_n, D_n) is valued in $\{0, r\}^2$.

Then fact: the weak limit of the sequence μ^n exists whose support is contained in the set of all 2×2 rank one stochastic matrices. We denote the limit distribution of the sequence $X_nX_{n-1}\cdots X_1$ by λ. In a previous article, we considered $0 < r \leq \frac{1}{2}$ and showed that $S(\lambda)$, the support of λ, consists of the end points of a countable number of disjoint open intervals and we calculated the λ-measure of each such point. Then, in a subsequent article, we considered the case $r > \frac{1}{2}$ and obtained some partial results for the special case $r = \frac{\sqrt{5}-1}{2}$ (the reciprocal of the golden ratio). Here we completely solve this special case. (Received September 13, 2016)