Notations For nonempty subset G of $\mathcal{N}_n$:

- $X_G = (X_i, i \in G)$
- $\tilde{X}_G = \cup_{i \in G} \tilde{X}_i$

Theorem 3.6 Let

$$\mathcal{B} = \left\{ \tilde{X}_G : \ G \text{ is a nonempty subset of } \mathcal{N}_n \right\}.$$

Then a signed measure μ on $\mathcal{F}_n$ is completely specified by $\{\mu(B), B \in \mathcal{B}\}$, which can be any set of real numbers.

Remark We have seen that a signed measure μ on $\mathcal{F}_n$ is completely specified by $\{\mu(A), A \in \mathcal{A}\}$, the set of values of μ on the nonempty atoms. This theorem says that μ can instead be specified by $\{\mu(B), B \in \mathcal{B}\}$, the set of values of μ on the unions.