Choosing Records: Flip Flops and Cronies (Extended Abstract)

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A fundamental problem ingrained in representative democracies is how selected members of the community in positions of influence evaluate candidates in order to choose who will have the power to take decisions on their behalf. This is the case of voters in political elections, or of the President in appointments of public officials, or nomination processes. A crucial determinant of a candidate's success is what can be inferred about her ability to process the relevant information that is needed to take action, i.e. her quality or competence. And while direct information about the decision maker's competence is not always available, a piece of information that is often available is the candidates' record of prior decisions in previous offices. Whether the candidate *flip-flopped* or maintained a steady course of action, or whether she followed the expected course of action or deviated from the norm.

In this paper, we consider a simple representation that attempts to capture some of the key features of this problem. An Agent of uncertain ability makes a sequence of publicly observable decisions. The decision-making environment faced by the agent is uncertain and can exhibit persistence. A Principal observes the sequence of decisions made by the Agent, and based on the Agent's record, decides whether to hire the Agent or to hire an expert from an "untested" pool of agents. Our goal is to answer two sets of questions. First is whether - and if so under what conditions - it is possible for the Principal to use decision records for her hiring decisions. Second, if records convey some information, what can we learn from observing these decision records? Is (the posterior distribution of quality conditional on) a *flip-flop* worst than a consistent record? Is complaisant behavior rewarded

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in this environment?

Specifically, we make the following assumptions. There are two periods. In each period t, an unobservable state $\omega_t \in \{0,1\}$ is realized. The probability that the state is 1 in period 1 is $p \geq 1/2$, and the probability that the state is $k \in \{0,1\}$ in period 2 given that the state is k in period 1 is $\gamma \geq 1/2$. Corresponding to any state ω there is an optimal decision $\tilde{d}(\omega)$, and for simplicity we let $\tilde{d}(\omega) = \omega$. Thus, in terms of the decision problem, the optimal decision of an agent who can observe the realization of the state is to match it with her choice. Formally, we assume that for any agent $u_A(d_t, \omega_t) = 1$ if $d_t = \omega_t$, and zero otherwise. In each period t, the Agent observes a signal s_t, such that $\Pr(s_t = k|\omega_t = k) = \theta$. We henceforth refer to the precision θ as the agent's quality or ability. The Agent is drawn randomly from a pool of agents with heterogeneous quality, distributed uniformly in $[1/2, 1]$. The Agent cares about both the quality of her decision-making (with weight $1-\delta$) and about the expected payoff of getting hired by the Principal (this has a weight δ).

We consider first the case in which the Principal is fully uniformed about the realization of the state of nature in the Agent's problem. The big picture here is that records are typically not useful for the Principal. A more accurate statement depends on the *ambition* of the agent, δ. For high ambition, $\delta > \overline{\delta}$, records are never informative, and there are two types of equilibria. One is a pooling equilibrium in which all agent types generate the same decision record independently of their information about the state. A second class of equilibria has types generating two or more decision records in such a way so that the posterior inference of the Principal conditional on any of these records is equal (the Principal here breaks the indifference against the "untested" pool). These two classes of equilibria exist for high enough δ, $\delta \geq \overline{\delta}$. Here $\overline{\delta}$ is defined as the level of δ for which the best experts would prefer to play their information (note that it is them for whom this constraint becomes active first). As soon as the best possible experts are playing all records, the pooling equilibrium can't be sustained in equilibrium. Nevertheless, it must still be true that all expected rents are completely arbitrated, and all the conditional posteriors are uninformative. The intuition is that otherwise there would exist a record d such that the Principal would prefer to hire an untested agent rather than the Agent associated with d, but in this case any type generating this record would be better off by deviating. Note that for this to happen, we must have types mapped to records in a particular way. Note moreover that as δ decreases, more types are necessarily playing sincerely, and the unfiltered records are more informative. For low enough δ, $\delta < \underline{\delta}$, the size of the relatively bad types not playing sincerely is not enough to change the posterior in a relevant way (to change the hiring decision). For $\delta < \underline{\delta}$, then, low types are mimicking the good types, therefore flattening the posteriors, but not enough to make it uninformative. It is only in this case in which decision records provide some useful information for the Principal. The lower δ is, the larger the set of types playing sincerely, and with $\delta \to 0$, all types are playing sincerely, and the records are perfectly informative.

The conclusion is that with an uninformed Principal, records are for the most part inconsequential. If the Principal knows something, instead (however imprecise the signal), this conclusion changes dramatically. The big picture is that while for high ambition levels, $\delta \geq \overline{\delta}$ (defined above), it is possible to support a coordination that induces all records to be uninformative, as before, as soon as $\delta < \overline{\delta}$, the only equilibrium involves all agents deciding sincerely, following their information to the best of their abilities. As soon as the best types are playing all records, the possibility of pooling breaks completely because the Principal will have four different posteriors depending on his signals, and there is no way to equate all these to the distribution of abilities in the pool. Bad agent types here want to mimic the decision making of good types (or the expected behavior of the Principal), but doing so means trying to match the state, and therefore being as good a decision maker as possible. Thus the best response for all Agent types is to choose sincerely. In conclusion, whenever the Principal has some information about the realization of the state, as soon as the best type of the Agent would have incentive to choose sincerely, then all types must choose sincerely.

We then show that in this case, flip-flops can be better than consistent records, and unexpected behavior can dominate following the norm. As a motivation, consider, for example a situation in which $p = 4/5$ and $\gamma = 4/5$, so that the prior of the first period state is high, and the state is persistent. Then the Principal would prefer to hire an untested individual from the pool of experts than an individual with a consistent and safe $d = (1, 1)$ record, and would rather hire an individual with a consistent and unexpected record $d = (0, 0)$ than hiring an expert from the pool. Moreover, the consistent unexpected record dominates both flip-flops, and these in turn dominate the consistent and safe record $d = (1, 1)$.

The intuition for this result is extremely simple. In a nutshell, while the posterior ability conditional on a $d = (0, 0)$ record would be rather low if all types were to follow their information blindly, types self select to not do this in order to maximize the probability of making a correct decision. In particular, there are four classes of agents. Low ability agents can never receive information that reverses the prior, and therefore always generate a

$(1,1)$ record. Higher ability agents can only generate a zero decision only in the second period, after observing two consecutive zero signals (any one zero signal is not powerful enough to overturn the prior and persistence). Still higher ability agents follow their signals in both periods unless they observe $s = (1,0)$, in which signals compensate each other and go against a favorable decision in the second state. The highest ability agents always follow their signals. It follows that although the unconditional probability that the state of the world will be $(1,1)$ is increasing in p and γ, the Principal will have to put enough probability on the event that the $(1,1)$ record has been in fact generated by a low quality"expert". On the other hand, only Agents with relatively high quality can be so bold to trust a $(0,0)$ history of signals and generate a consistent and unexpected record of $d = (0,0)$.

In conclusion, we show that the expected quality of an Agent conditional on a $d = (0,0)$ record is always above the expected quality of an untested agent. On the other hand, the expected quality associated with a record of $(1,1)$ is below the expected quality of an untested agent for a large set of parameters. If we also assume that the Principal can only distinguish between a consistent record and a flip-flop record, then it is possible to show that a consistent record is always worse than a flip-flop record. Furthermore, if the Principal is risk averse, than a consistent record might be a real disaster since it is also associated with the highest conditional variance.